Broadband's Road Less Traveled: Rural areas need broadband to thrive. But Robert L. Mitchell says deregulation has freed carriers from any real obligation to provide it, which means rural workers could be shut out of New Economy jobs. PAGE 46

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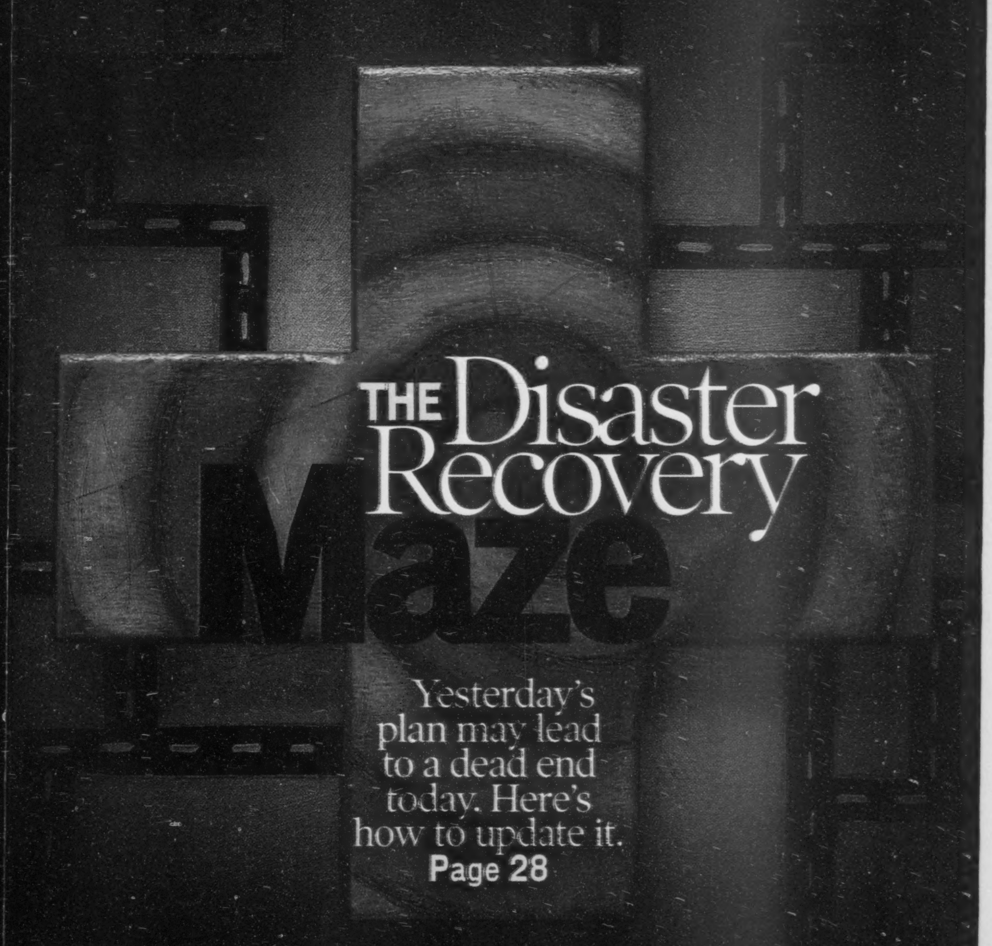

THE Disaster Recovery Maze

Yesterday's plan may lead to a dead end today. Here's how to update it.
Page 28

Inside

AUGUST 27, 2007
VOL. 41, NO. 35 $5/COPY

News Analysis

Virtualization technology is making servers more vulnerable to hackers. PAGE 14

Qualified data center execs grow scarce as the skills they need expand. PAGE 18

The Grill: Whitfield Diffie talks about encryption and the end of computer security as we know it. PAGE 24

Opinion

Security Manager's Journal: Roaming, Wi-Fi-enabled laptops? Not on my network! PAGE 38

Don't Miss . . .

Case Study: IT is supporting a total revamp of California's energy market. PAGE 34

Creating, changing and deleting user accounts is a pain, but new software can simplify the process. PAGE 42

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Inside

COMPUTERWORLD ■ AUGUST 27, 2007

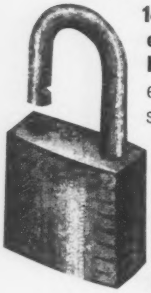
■ NEWS DIGEST

8 California may to **file suit against ES&S** for selling uncertified e-voting machines. | A **Wells Fargo computer crash** shuts down online services and ATMs.

10 IBM licenses Siemens' OpenScape to add features to Sametime. | Hackers gain access to 1.6 million **Monster.com records**.

12 A class-action suit is filed over a data breach at a transaction processor. | The **Wi-Fi Alliance** selects Wipro to build a test lab in India.

■ NEWS ANALYSIS



14 Virtualization Increases IT Security Pressures. IT managers say virtualization software, which can cut data center costs, also presents security challenges.

18 IT Skills No Longer Sufficient for Data Center Execs. Companies may have difficulty finding qualified data center managers because they now need facilities and security management skills.

■ OPINION

4 Editor's Note: **Don Tennant** ponders some recent developments that have something in common: They're all inexplicable.

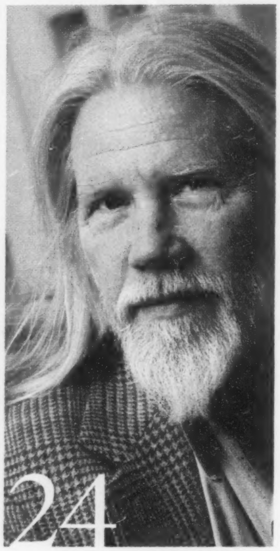
27 Michael Gartenberg is looking for a better way to experience the Web on a mobile device.

46 Robert L. Mitchell examines rural America, where a lack of broadband service threatens to damage economic competitiveness.

52 Frankly Speaking: **Frank Hayes** notes that defense in depth shouldn't stop at an organization's borders; the more business partners can help, the better off we'll be.

■ DEPARTMENTS

20 On the Mark: **Mark Hall** discovers that WAN acceleration is so yesterday. Making the applications faster is what it's all about now.



24 The Grill: Sun Microsystems Chief Security Officer **Whitfield Diffie** talks about the ins and outs of encryption, the mundane world of modern spies, and the emergence of designed humans.

38 Security Manager's Journal: **Security Crashes Into Productivity.** C.J. Kelly didn't tell those users they could have laptops, but now that they do, she's the one who has to tell them they can't.

48 Career Watch: Author Judy McKay talks about the secrets behind successfully managing techies.

51 Shark Tank: A big insurance company hires a contract programmer to help with the workload in IT – and she's a catastrophe.

■ ALSO IN THIS ISSUE

Letters 6

Company Index 51

■ FEATURES

28 The Disaster Recovery Maze

COVER STORY: New layers of IT complexity and an ever-evolving definition of disaster are making disaster recovery planning more challenging than ever. And yesterday's answers can be today's dead ends.

34 Retooling California's Energy Market

The Golden State is in the midst of a sprawling effort to provide more granular and transparent electricity pricing by monitoring thousands of transmission points over tens of thousands of miles of lines.

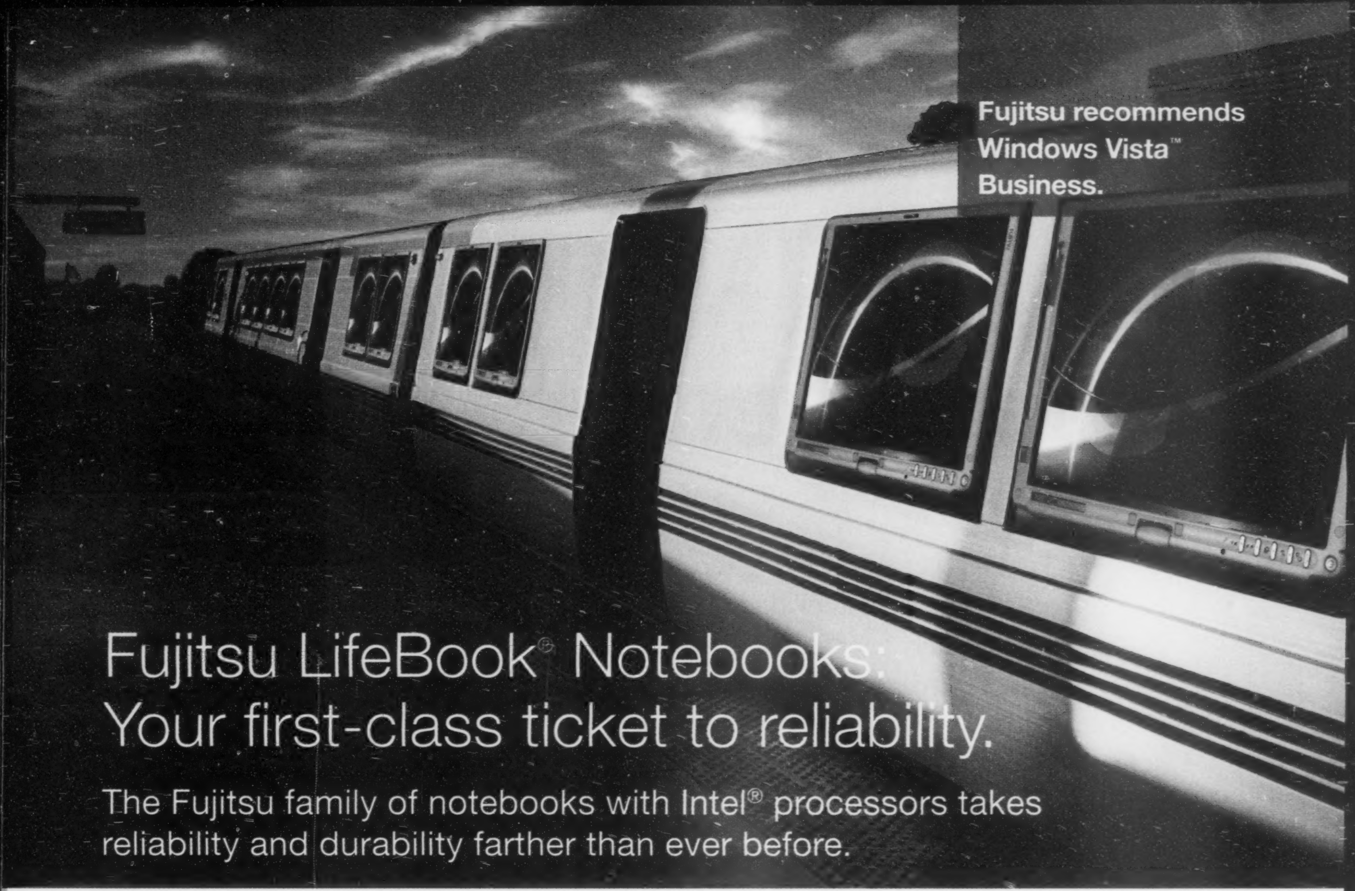
39 IT Mentor: Outsourcing The Right Way

An outsourcer is neither savior nor Satan. It's a business partner that shares your goals but needs to be managed, says Sean C. Barker.

42 Waiting for the Go

Creating, changing and deleting user accounts drains IT resources and results in chronic backlogs and frustrated – even mutinous – users. But new software can speed and simplify the process.

COVER ART BY MARIA RENDON



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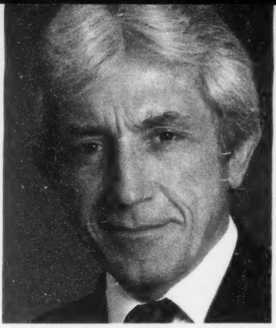
■ **EDITOR'S NOTE**

Don Tennant



Defying Explanation

DRIVING TO WORK one morning last week, I passed a horse trailer that bore the warning that you routinely see on horse trailers: "Caution: Horses." I'm sure my face bore the expression that people routinely see on my face: befuddlement.

I've just never understood the danger or why I need to exercise caution when I'm in the proximity of a horse trailer. Granted, there's not a great deal you can discern from the rear ends of a couple of horses, and I suppose it's possible they could be plotting something at the other end. But the threat still seems overstated.

So as I ponder the rationale for the alarm, it occurs to me that I've come across a lot of things recently that are equally inexplicable. Here are a few of them:

■ A reader in Arizona who wrote in response to my recent editorial on the national ID card debate took issue with my description of a July 4 ceremony that conferred U.S. citizenship on 26 people from around the world — specifically, with my referring to them as "Americans." "Just because a bunch of people became U.S. citizens one day doesn't make them 'Americans,' " he wrote. "It just makes them here legally. I would like to think it takes much more than an ID card or piece of paper to say you're an 'American.' " I wrote back and asked him to explain that one for me, but he hasn't responded. Perhaps he was busy on border militia duty, keeping us real Americans safe from the Brown Menace.

■ How people who are used to communicating in IM-speak will ever make it in the real world is beyond me. A comment posted on our Web site last week in response to a story about Windows Live Messenger being integrated into the Bebo social networking site read as follows: "kool but sum people u dnt know and if dey send u virses then what?? haha im clever hey." Wow. That may help explain this concurrent Shark Bait submission: "Is anyone else having a problem filling IT positions? I can't remember ever seeing the market quite this bad for the employers. It seems like I'm just scrapping the bottom of the barrel with the résumés I have been getting. What's Up?"

■ Next thing you know, Dell will have to halt shipments because of faulty twist-ties on the power cords.

■ It's hard to figure how it can be that Dell, the PC company that once seemed incapable of doing anything wrong, now seems almost powerless to do anything right. It's bad enough that the company is mired in the muck of a financial scandal in which senior managers were found to have changed corporate account balances in order to meet quarterly financial targets. Worse for users are the ongoing notebook shipment delays, which have a lot of people throwing up their hands in exasperation and swearing off Dell altogether. What's especially perplexing is that a major reason for the delays, according to Dell officials, is problems with painting the things. Next thing you know, they'll have to halt shipments because of faulty twist-ties on the power cords.

■ "Caution: Cows." Perhaps that warning should be emblazoned on every pallet of Gateway PCs that's shipped into China. That would make about as much sense as the fact that up until this month, when Gateway announced a distribution agreement with a Chinese outfit called Digital China, Gateway PCs weren't being shipped into China. What on Earth have Gateway officials been waiting for all these years? I can't think of a single other major PC maker that hasn't been entrenched in China for at least a decade, so the notion that the conditions weren't right until now is stupefying. If anything, the conditions now are more likely to butcher a newcomer. Those greener pastures have gotten awfully crowded over the years.

And yes, I know I left myself wide open for a comment related to a horse's hindquarters from anyone who disagrees with any of this. I was feeling charitable. ■

Don Tennant *is editor in chief of* Computerworld. *Contact him at don_tennant@computerworld.com.*

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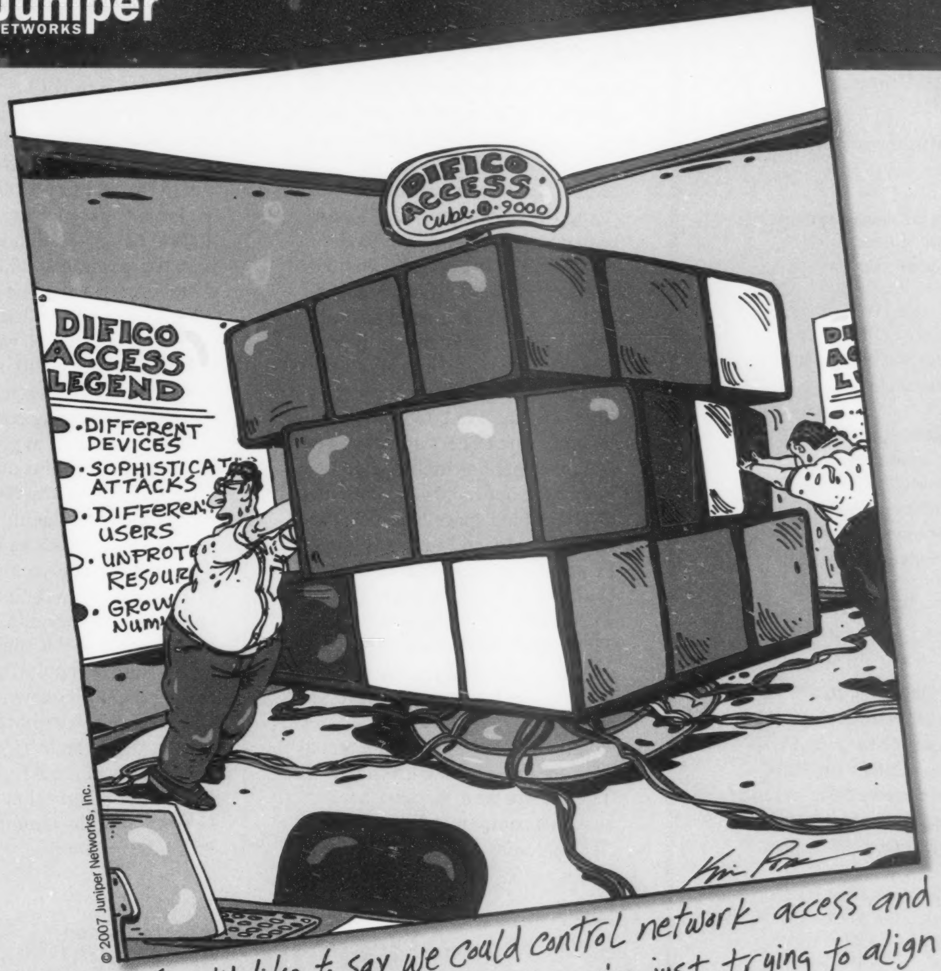
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■ LETTERS

State of IT in Pakistan

We appreciated Patrick Thibodeau's recent article about Pakistan's burgeoning IT industry and the country's growth as an IT outsourcing center ["Pakistan's Offshore IT Potential Held Back by Political Risks," *Computerworld.com*, July 23]. As managing director of the Pakistan Software Export Board, I wanted to clarify several points. Founded in 1995, the PSEB is a government agency whose mandate is to promote Pakistan's IT industry. Our mission is to grow this industry from $2 billion in 2006 to $10 billion by 2010. The PSEB's efforts are part of a plan that has included development of about 750,000 square feet of IT-enabled space leased out to IT companies in PSEB-designated IT parks. Construction of new national IT parks with several million square feet will commence shortly. The PSEB also operates a successful quality certification program under which 100 IT companies have received ISO certification.

Currently, over 1,000 IT companies are registered with the PSEB. They range from world-class services companies like NetSol Technologies, the first Pakistani IT company listed on the Nasdaq, to smaller, product companies working in niches like mortgage lien processing, enterprise computing resource management and business process management. International call centers are also growing rapidly in the country. Collectively, the Pakistan economy employs over 110,000 IT professionals, and each year approximately 20,000 new IT professionals enter the job market.

Recognizing the need to continue to develop skilled IT workers, Pakistan has over 100 universities and over 1,000 other academic institutions providing computer- and IT-related education programs. The PSEB also maintains an internship program that has received national recognition for placing 3,000 interns — 80% of whom have gained permanent employment within the IT industry from their internships. Other PSEB programs include research reports, international marketing, human capital development and public policy formulation.

I invite you to explore Pakistan in greater depth and to look beyond the media's narrow reporting to see the vibrant future that is emerging.
■ **Yusuf Hussain,** *managing director, PSEB, Islamabad*

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Managing Data Centers Wirelessly

Systems managers want to work remotely too, which is why some observers say the wireless data center administration trend is about to take off. Here are some tips for how to do it and what to watch out for.
computerworld.com/servers

Is the Future of Cell Phones 'Voice-Based'?

Imagine leaving your pocket-size cell phone behind and carrying only the earpiece, from which you could, at minimum, make and receive phone calls. Mike Elgan says three recent trends make this possible and desirable.
computerworld.com/mobilewireless

Linux Text Editors: Which One Revs Your Engine?

Our reviewer test-drives nine free Linux text editors. Find out which ones crossed the finish line ahead of the pack.
computerworld.com/software

Inside Apple's iLife '08

The latest version of Apple's media suite features major updates to at least two of its components. Most of the changes are welcome, but the new iMovie has been raising some hackles. computerworld.com/mac

10 Statements That Make Security Pros Cringe

Plus, 10 pieces of useless advice from security consultants that ought to unnerve *you*. Jon Espenschied provides a little list . . . or two. computerworld.com/security

_INFRASTRUCTURE LOG

_DAY 75: These cables are everywhere!! Connecting underutilized servers to more underutilized servers. Our energy usage is out of control!!

_DAY 77: I found a way out of this mess: the super-efficient IBM BladeCenter.® It helps us manage power and cooling usage with intelligent Cool Blue™ technology. And with its new Quad-core Intel® Xeon® processor, we won't have to sacrifice performance for efficiency. So out with cables, in with blades.

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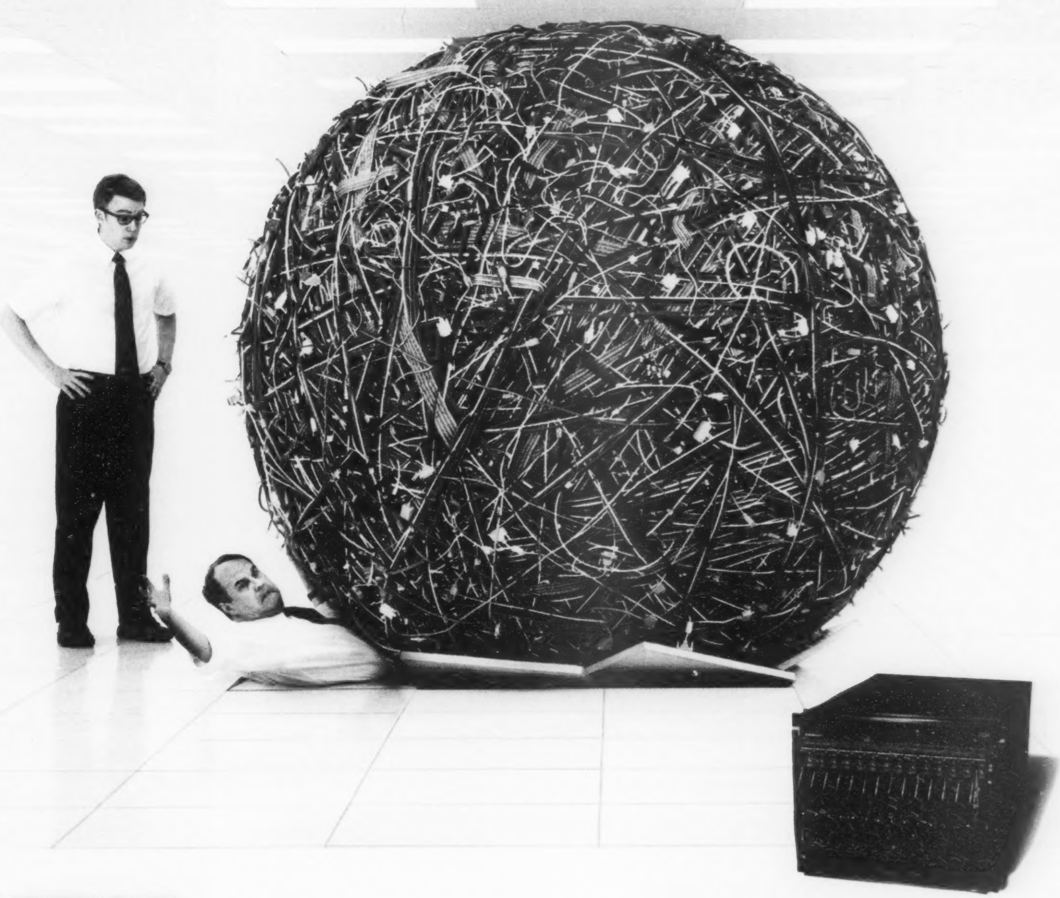

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News Digest

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THE WEEK AHEAD

MONDAY: Gartner's Financial Services Technology Summit opens. Former U.S. Rep. Michael Oxley, a co-author of the Sarbanes-Oxley Act, will deliver a keynote address.

WEDNESDAY: Novell is scheduled to report the financial results for its fiscal 2007 third quarter.

THURSDAY: Dell is slated to announce preliminary financial results for its fiscal 2007 second quarter as it works on restating results from 2003 through 2006.

GOVERNMENT

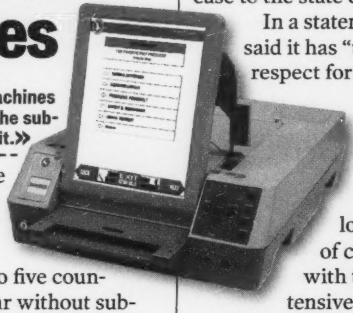
California Charges ES&S Illegally Sold E-vote Machines

ELECTION SYSTEMS & Software Inc. illegally sold nearly 1,000 uncertified electronic voting machines to five California counties in 2006, California Secretary of State Debra Bowen charged last week.

"Given that each machine costs about $5,000, it appears ES&S has taken $5 million out of the pockets of several California counties," she said in a statement.

Bowen said she will seek a penalty of $9.72 million — based on the maximum fine of $10,000 per uncertified machine — plus the cost of the machines if Omaha-based ES&S is found to have broken the law.

According to Bowen, ES&S sold 972 of its AutoMark Phase 2 Model A200 e-voting machines to five counties last year without submitting them to her office for certification. Some were shipped before the model was certified by federal election officials in August 2006, added Bowen.



AutoMark machines like this are the subject of the suit.»

The uncertified machines were sold to San Francisco, Colusa, Marin, Merced and Solano counties.

California law requires that all e-voting machines be certified by the state before use. Vendors are also required to get the secretary of state's approval of any changes to a certified voting system, Bowen noted.

The secretary of state's office will hold a public hearing on the charges on Sept. 20 and then bring the case to the state courts.

In a statement, ES&S said it has "the greatest respect for the federal and state certification processes. We have a long history of complying with those extensive and thorough examinations of voting technology."

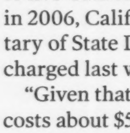
The company said it will work with California to resolve the issue.

Earlier this month, Bowen mandated new security standards for the state's e-voting systems.

The order came just days after the release of a state-sponsored review of California's e-voting machines by the University of California, which found security problems in every system tested.

Testers were able to overwrite firmware, bypass locks on the systems and forge voter cards on various machines from multiple vendors, according to the report.

— Grant Gross, IDG News Service



> **"Given that each machine costs about $5,000, it appears ES&S has taken $5 million out of the pockets of several California counties.**
>
> **DEBRA BOWEN,** CALIFORNIA SECRETARY OF STATE

DATA CENTERS

Computer Crash KOs Wells Fargo ATM Network, Other Services

A WIDESPREAD computer crash early last week knocked Wells Fargo & Co.'s online and automated teller machine services offline for as many as three days.

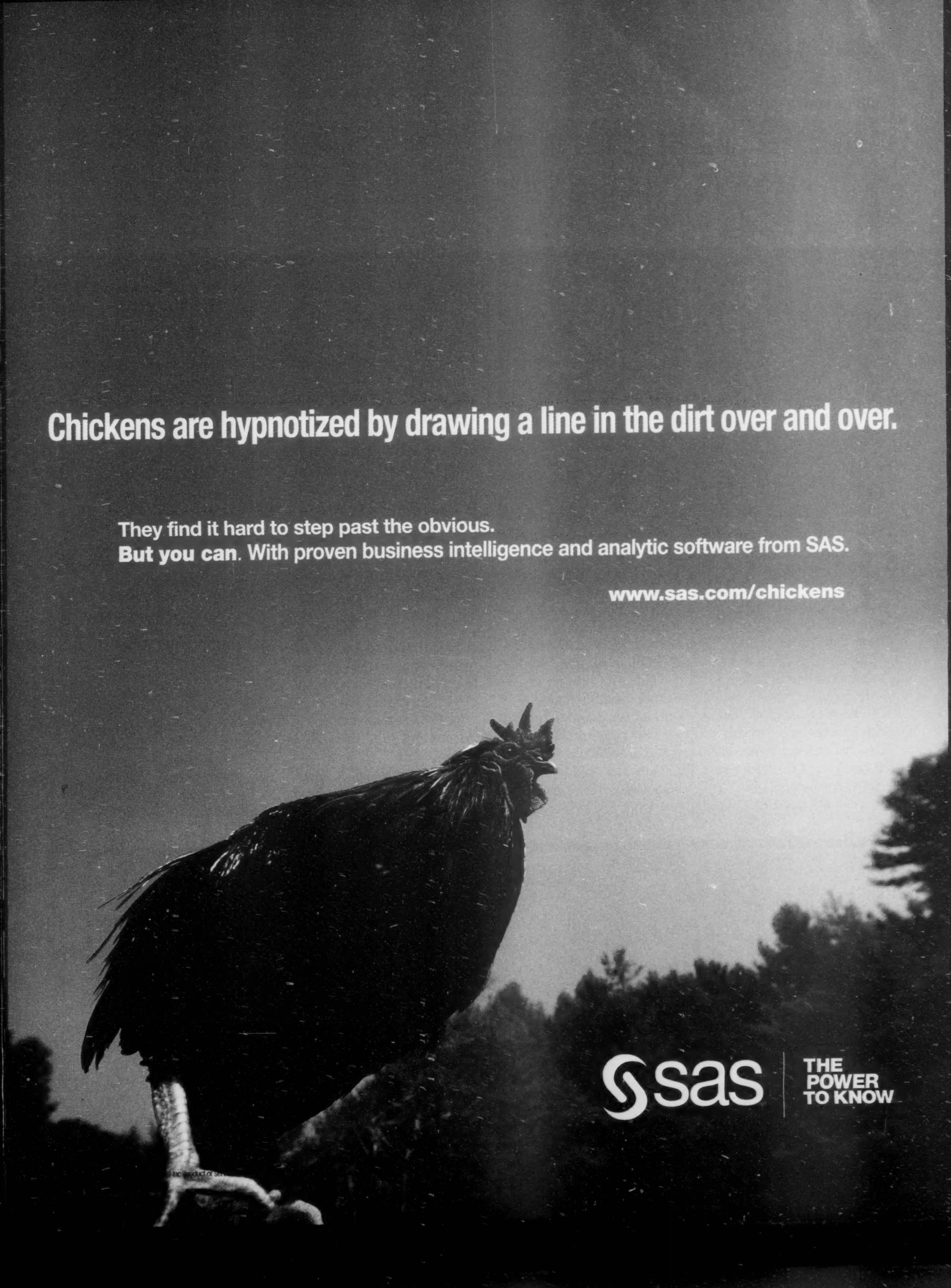
The San Francisco-based financial services firm did not disclose the cause of the crash but acknowledged that the problems were serious enough that the company had to restore data from backup sources.

"Using our backup facilities, we restored Internet banking service in about one hour and 40 minutes," the company said in a statement

The company also noted that point-of-sale transactions, loan processing and wire transfers were affected by the outage.

Wells Fargo did not respond to a request for further comment on the incident.

– ROBERT McMILLAN, IDG NEWS SERVICE



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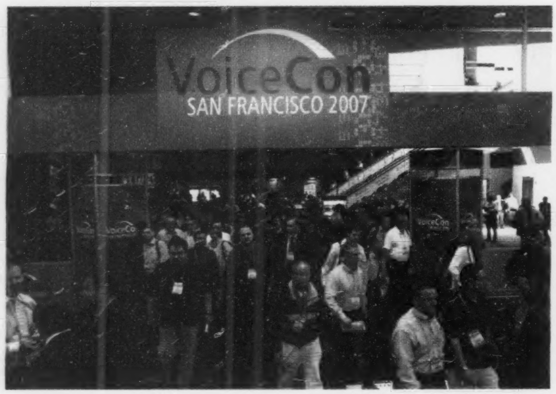
■ NEWS DIGEST

COLLABORATION

IBM Turns to Siemens For Help in Taking On New Microsoft Tools



IBM last week announced that it will license parts of Siemens AG's OpenScape software to add unified communications capabilities to its Sametime instant messaging and webconferencing software.

The companies did not disclose the value of the deal, which was announced at the VoiceCon conference in San Francisco.

Analysts said the move is an effort by IBM to bring Sametime, part of its Lotus Notes messaging and collaboration suite, up to par with Microsoft Corp.'s Office Communications Server (OCS) 2007, which is slated to ship on Oct. 16.

"This sets IBM up to be a more credible player in unified communications," said Barry Marks, an analyst at IntelliCom Analytics LLC in Union, N.J. "This is something that Sametime needed."

OpenScape will let Sametime users manage communications across multiple telephone technologies, including cellular and voice over IP. It also will allow users to access calls through most applications, IBM said.

Chris Miller, director of messaging and collaboration at Connectria Corp., a managed IT services company in St. Louis, said the added support for VoIP technology could cut costs significantly for corporate users. Connectria sells and supports Sametime and is also a Sametime user.

Miller noted that Sametime currently has plug-ins that can add some OpenScape capabilities but IT administrators must monitor and maintain them.

OCS 2007 will let companies set up VoIP phone systems and manage corporate instant messaging, e-mail and videoconferencing on a single IP network. Microsoft announced at the conference that it will offer OCS as a hosted service at an undisclosed future date.

— Eric Lai and Todd R. Weiss, with Stephen Lawson of the IDG News Service

Short Takes

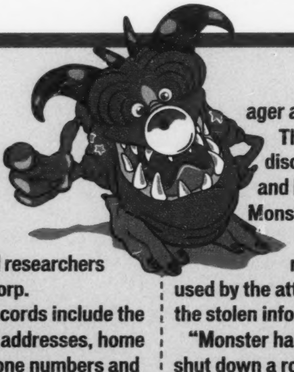
IBM's **Rational Software** unit is evaluating whether to make parts of its **Jazz collaboration framework** available to the open-source community. Executives said Rational hopes to make the Jazz software more pervasive in IT shops.

A technical committee in **India** rejected **Microsoft Corp.'s** application to make its **Office Open XML** file format a standard, just days before a scheduled Sept. 2 vote on the format by the international standards group **ISO**.

Police in Turkey have arrested **Maksym Yastremskiy** and charged the Ukrainian national with trying to sell data hacked and stolen from retailer **The TJX Companies Inc.** TJX disclosed the massive breach early this year.

Intuit Inc. CEO **Steve Bennett** said he plans to step down from his post at the end of the year. The announcement comes four months after an e-filing problem involving the company's **TurboTax** software.

Monster Hit With Theft of Client Data



ATTACKERS using a Trojan horse stole more than 1.6 million records belonging to users of Monster Worldwide Inc.'s online job search service, the company acknowledged last week.

The malicious program, called Infostealer.Monstres, utilized the pilfered data to send Monster.com users phishing e-mails that plant malware on their machines, said researchers at Symantec Corp.

The stolen records include the names, e-mail addresses, home addresses, phone numbers and résumé identification numbers of 1.3 million users of Monster's services, said Amado Hidalgo, senior security response manager at Symantec.

The theft was discovered Aug. 17, and last Thursday Monster.com disclosed that it found a remote server used by the attackers to store the stolen information.

"Monster has identified and shut down a rogue server that was accessing job seeker contact information through unauthorized use of compromised legitimate employer-client log-in credentials," New York-based Monster Worldwide said in a statement.

"The company is currently analyzing the number of job seeker contacts impacted by this action and will be communicating with those affected as appropriate," the statement said.

Hidalgo said that the legitimate log-ins were likely stolen from recruiters and corporate human resources personnel.

– GREGG KEIZER

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- Wachovia Corporate Investment Bank, North Carolina

Network Management

- Accenture, Ltd., Illinois
- Case Western Reserve University, Ohio
- National Guard Bureau J6, Virginia
- Royal Bank of Scotland Group (RBSG), Scotland
- Syracuse City Schools and Syracuse Police Department, New York

Security, Compliance and Risk Management

- Accor North America, Texas
- Alliance & Leicester plc, United Kingdom
- Blue Cross and Blue Shield of Kansas City, Montana
- Sinclair Community College, Ohio
- Zions Bank, Utah

Servers and Virtualization

- Credit Suisse, New York
- Maricopa County Community College District (MCCCD), Arizona
- North Carolina State University, North Carolina
- Praetorian Financial Group,New York
- Wachovia Corporate Investment Bank, North Carolina

Storage and ILM

- Baylor College of Medicine - Human Genome Sequencing Center, Texas
- FirstHealth of the Carolinas, Inc., North Carolina
- Midwest Independent Transmission System Operator, Indiana
- Six Flags, New York
- The Halifax Bank of Scotland (HBOS), Scotland

Judging Criteria

Judges will evaluate and rank the finalists in each category according to their substantiated Infrastructure Management solution attributes and achievements against a set of criteria such as:

- Financial return and measurable payback (returns on investment, assets, resources) through created/protected revenue opportunities or cost savings.
- Strategic importance to the business.
- Substantive customer impact (service, retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future infrastructure solution initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments, divisions, etc.
- Addresses challenges of data, information and application security, recovery, business continuity, etc.

Thank you to our "Best Practices in Infrastructure Management" Judges for IMW 2007:

- Yuri Aguiar, Ogilvy & Mather Worldwide
- Johanna Ambrosio, Computerworld
- Beth Bonjour, BNSF Railway
- Nida Davis, American Red Cross
- Scott Dennull, CareSource Management Group
- Bob Gill, TheInfoPro
- Joe Kennedy, State Street
- Julia King, Computerworld
- Patrick Law, American Modern Insurance Group
- Ron Milton, Computerworld
- Rick Napolitano, ARINC
- Philip Seeto, State Street
- Don Tennant, Computerworld

SECURITY

Firm Sued Over Breach of Data On 8.5M People

GETTY IMAGES

A CALIFORNIA LAW firm has filed a class-action suit charging Fidelity National Information Services (FIS) and one of its subsidiaries with negligence in connection with a data breach that exposed personal data of as many as 8.5 million people.

The lawsuit, filed in federal court in California, also accuses the Jacksonville, Fla.-based transaction processor and outsourcer and its Certegy Check Services subsidiary of invasion of privacy and breach of implied contract.

The suit does not seek specific damages.

The complaint was filed by San Francisco-based Girard Gibbs LLP on behalf of the 8.5 million consumers.

A spokesman for FIS and Certegy, which provides check-verification services to retail firms, did not respond to a request for comment on the suit.

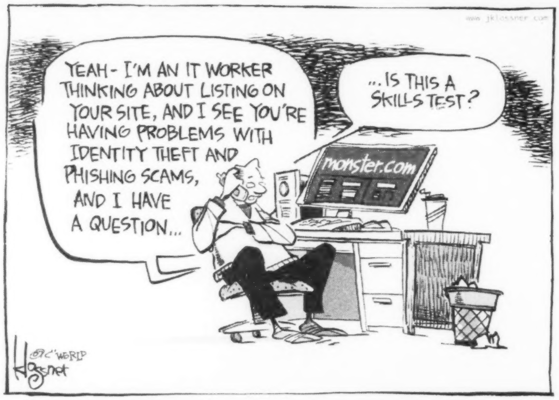
Fidelity National, which is not affiliated with well-known financial firm Fidelity Investments, disclosed last month that a Certegy senior database administrator had illegally accessed and downloaded millions of consumer records and then sold them to data brokers.

The company first estimated that about 2.3 million records were affected but quickly boosted that number to 8.5 million in filings with the U.S. Securities and Exchange Commission.

Eric Gibbs, an attorney at Girard Gibbs, contended that Fidelity National didn't notify consumers of the theft "in a timely and adequate manner." He also alleged that the companies failed to properly monitor and supervise the activities of employees entrusted with consumer data.

— Jaikumar Vijayan

BETWEEN THE LINES *By John Klossner*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BENCHMARKS LAST WEEK

IBM acquired webconferencing service provider WebDialogs Inc. in Billerica, Mass., for an undisclosed sum. WebDialogs will be part of IBM's Lotus division, and its software-as-a-service offerings will be part of the Sametime product line.

Infosys Technologies Ltd. opened a business process outsourcing operation in Monterrey, Mexico, that will employ up to 1,000 people within three years. The center will target the growing Latin American market.

30 years ago: Communist militants bombed computer centers throughout Italy, calling them instruments of capitalism.

Global Dispatches

Infineon Buys LSI Unit for $450M

NEUBIBERG, GERMANY – Infineon Technologies AG, based here, has agreed to purchase the mobility products group of LSI Corp. for $450 million (U.S.) in cash, plus a possible additional $50 million if the unit meets certain performance goals.

The mobility products unit of Milpitas, Calif.-based LSI designs semiconductors and software for cellular phones and chips for satellite digital audio devices.

Once the deal closes, 700 LSI workers will join Infineon's communications solutions business group, the companies said.

At the same time, the firms signed intellectual property, transition services and supply agreements.

LSI said the deal is part of a restructuring following its $4 billion (U.S.) purchase of Agere Systems Inc. in Allentown, Pa., earlier this year.

Dan Nystedt,
IDG News Service

Wipro Sets Up Wi-Fi Test Lab

BANGALORE, INDIA – Wipro Ltd. was awarded a contract from the Wi-Fi Alliance to create an authorized test laboratory for certifying products as compliant with the Wi-Fi standard for high-speed wireless local-area networking.

Wipro, based here, will also continue to run a Wi-Fi precertification lab, said Sanjay Seth, general manager for testing services and global alliances at Wipro Technologies.

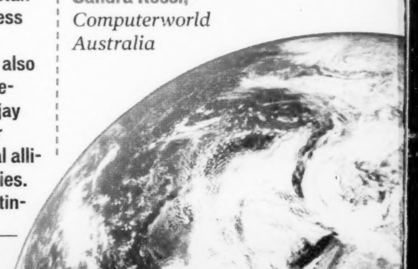
In a statement, the Austin-based Wi-Fi Alliance said it decided to open its 12th worldwide certification lab in India to better work with development teams employed there by its members.

John Ribeiro,
IDG News Service

BRIEFLY NOTED

AGL Energy Ltd. in St. Leonards, Australia, has signed a five-year, $16 million Australian ($12.8 million U.S.) outsourcing contract with Tata Consultancy Services Ltd. Mumbai, India-based Tata will manage and support AGL Energy's SAP software.

Sandra Rossi,
Computerworld Australia



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■ SECURITY

RICHARD DOWNS

Virtualization Increases IT Security Pressures

Emerging technology is making servers more vulnerable to hackers.

By Jaikumar Vijayan

VIRTUALIZATION technology, which allows multiple operating systems to run different applications on a single computer, has caught the attention of IT managers for its promise to let them better manage and utilize corporate IT resources.

However, some IT managers and security researchers warn that the emerging technology also makes corporate systems far more vulnerable to hackers.

Chad Lorenc, information security officer at a financial services company that he asked not be named, said that IT security and compliance projects are far more complex undertakings on virtual machines than on servers that run a single operating system and application.

"It is a very complex issue. I'm not sure you are going to find a single solution" for addressing security concerns in a virtual environment, Lorenc said.

"There is no silver bullet," he added. "You have to tackle [security] from a people, process and technology standpoint."

Virtualization technologies allow companies to carve out multiple virtual machines within a single physical resource such as a computer server or storage array.

The technology allows companies to consolidate applications running on multiple systems into a single server, which promises to ease management requirements and allow IT hardware resources to be better utilized.

Analysts note that although the technology has been around for several years, IT organizations have become more interested in recent months as virtualization products have emerged from the research labs of companies such as Intel Corp., Advanced Micro Devices Inc., VMware Inc., Microsoft Corp. and IBM.

But before IT managers turn to virtualization tools, they must understand that collapsing multiple servers into a single box does not change their security requirements, said George Gerchow, technology strategist at security vendor Configuresoft Inc.'s Center for Policy & Compliance in Colorado Springs.

TAKING PRECAUTIONS

In fact, Gerchow said, each virtualized server separately faces the same threats as a traditional single server. "If a host is vulnerable, all associated guest virtual machines and the business applications on those virtual machines are also at risk," he said.

Therefore, a server running virtual machines faces more danger from a single exploit than a standalone physical server, he explained.

He noted that virtualization software allows developers, quality assurance groups and other corporate users to set up virtual machines with relatively little effort — and without IT oversight. Such virtual machines can pop up, move across systems or disappear entirely on an almost constant basis if IT managers don't take measures to maintain control of each of them.

"IT departments are often unprepared for the complexity associated with understanding what

Continued on page 16

NEC IP Telephony Solutions

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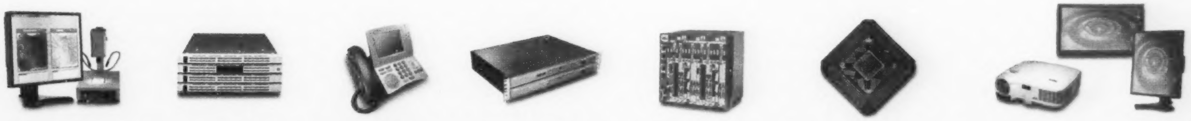

IT SERVICES AND SOFTWARE **ENTERPRISE NETWORKING AND COMPUTING** **SEMICONDUCTORS** **IMAGING AND DISPLAYS**

NEC is proud to have the No. 1 worldwide ranking in enterprise telephony extension line shipments in 2006, for the second year in a row, according to Gartner.*

*Market Share: Enterprise Telephony Equipment Worldwide, 2006; Megan Fernandez & Isabel Montero, July, 2007 ©NEC Corporation 2007. NEC and the NEC logo are registered trademarks of NEC Corporation. Empowered by Innovation is a trademark of NEC Corporation.

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Continued from page 14

virtual machines exist [on servers] and which are active or inactive," Gerchow said. Without the ability to keep track of virtual machines, companies are often unable to patch flaws or update systems when necessary, he added.

"When you have a virtual environment, [users] tend to start piling on the virtual servers," Lorenc said. The combined value of the assets can get "very high very quickly," he noted.

Even if IT staffers do keep track of all the virtual machines running on a server, they can still face problems installing patches or taking systems offline to perform routine security upgrades, Gerchow said.

> **"Many network admission control technologies that are making 'go' and 'no go' decisions don't know if a [server] is a virtual machine or not.**
>
> **LLOYD HESSION,** CHIEF SECURITY OFFICER, BT RADIANZ

The risks associated with patching holes and upgrading applications increases each time a new virtual machine is added to a server, he added.

Lorenc suggested that companies install tools that can quickly detect and discover virtual machines as they are installed on a corporate server. He also advised that companies create strong policies to control the spread of virtual machines.

And, he said, it's important that IT managers have a good understanding of the business import of every application running within a company's virtual environment and that they map out any interdependencies that may exist among them.

He added that companies should set up separate patching processes for virtual machines and create strict change-management policies and controls to restrict access to the virtual environment.

"We are in the process of trying to mature some practices in this area ourselves through process, change controls and through technology," Lorenc said.

Lloyd Hession, chief security officer at BT Radianz in New York, said that virtualization also opens up a slew of potential network access control issues. He noted that the technology allows multiple application servers with different access requirements to run on a host with a single IP address.

Therefore, he said, IT managers should take proper access-control measures to ensure that a network admission control policy for one virtual server on a host doesn't get applied to all the virtual servers on a corporate network.

Today, most networks "are not virtualization-aware," he said. "Many network admission control technologies that are making 'go' and 'no go' decisions don't know if a [server] is a virtual machine or not."

Security experts also noted that expanded use of virtualization tools from major vendors is giving hackers and "white hat" security researchers a stack of relatively unexplored code in which to look for security flaws and attack methods.

Just this month, Microsoft issued a patch to fix a vulnerability in its virtualization software that it said could let users access operating systems and applications without authorization. Microsoft rated the flaw "important" rather than "critical."

Security experts said that more such vulnerabilities are likely to appear in packaged software as the use of virtualization technologies continues to spread.

POSSIBLE WEAKNESS

Kris Lamb, director of the X-Force team in IBM's Internet Security Systems unit, cited virtual machine monitoring tools, which manage virtualization functions in a system, as a strong potential platform for launching hacker attacks on virtual machines.

Virtual machine monitors use consoles to manage the resources of the hardware hosting the virtual machines and to act as an interface between the hardware and the various virtual machines hosted on it.

The monitoring software usually sits just one level above the hardware and can be used to launch virtually undetectable attacks against the operating system and application layers above it, according to security experts.

In fact, security researchers have said that they have already demonstrated proof-of-concept code that shows just how attacks on virtual machines can be carried out from the monitoring software.

For example, researchers at Microsoft and the University of Michigan earlier this year devised SubVirt, which uses a a rootkit to install a virtual machine monitor under an operating system. The effort allowed the researchers to gain complete control of multiple virtual machines.

SECURITY FIXES

Ensuring the security of virtualized systems requires the ability to do the following:

- **Detect virtual machines, and know whether they are active, at any time.**
- **Keep track of where virtual machines are residing.**
- **Determine that the business-critical functions are supported by each virtual machine.**
- **Track virtual machines as they move from host to host.**
- **Map the relationships between virtual machines and host systems.**
- **Group virtual machines by application and importance.**

SOURCE: GEORGE GERCHOW, CONFIGURESOFT INC.

A similar attack method, called Blue Pill, was developed by Joanne Rutkowska, a malware researcher at Singapore-based IT security firm Coseinc who demonstrated it at the Black Hat security conference in Las Vegas earlier this month.

Rutkowska's rootkit is based on AMD's secure virtual machine, code-named Pacifica. It allows a virtualized system to be hijacked much like with the SubVirt attack method, while remaining completely undetectable to IT personnel.

"You have this big command-and-control [monitoring] software that has become a central piece of the infrastructure. [It] holds the keys to the kingdom" at many companies, Lamb said.

For hackers, such software provides an increasingly high-impact target to go after, he added. ■

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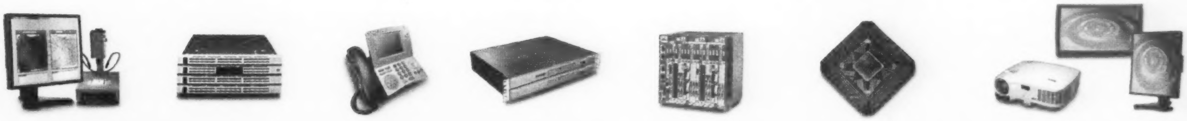

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■ DATA CENTERS

IT Skills No Longer Sufficient for Data Center Execs

Companies must find the right mix of IT, facilities and security expertise.

By Sandra Gittlen

> **“The data center is where everything comes together – networking, facilities, business units, security and storage. You have to understand all these moving parts.**
>
> **NEAL SMITH,** DATA CENTER MANAGER FOR CORE SERVICES, INTEL CORP.'S OREGON DATA CENTER OPERATIONS

COMPANIES ARE facing increasing difficulty in their efforts to find qualified data center managers, since the required skills have expanded beyond IT expertise to a mix of IT, facilities and security management abilities.

“Traditionally, data center managers did focus on IT,” said Jill Eckhaus, CEO of AFCOM, an Orange, Calif.-based professional association for data center managers.

“Today, they do so much more,” she said. “With companies running out of data center space and encountering power and cooling issues, it's extremely important for data center leaders to be educated in other areas, such as facilities.”

Eckhaus said last week that AFCOM estimates that “by 2015, the talent pool of qualified senior-level technical and management data center professionals will shrink by 45%.”

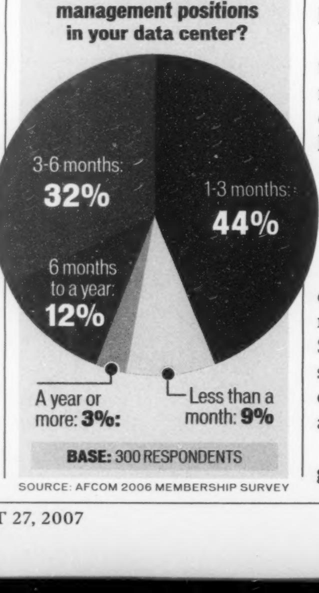
She noted that an AFCOM survey completed last year found that nearly 40% of its members reported having unfilled data center positions, and that 15% said “it takes them six months or longer to fill open senior-level technical or management positions.”

Neal Smith, data center manager for core services at Intel Corp.'s Oregon data center operations, said the results are not surprising.

“The data center is where everything comes together — networking, facilities, business units, security and storage,” he said. “You have to understand all these moving parts.”

STAFFING UP

How much time does it usually take to fill open senior-level technical or management positions in your data center?



BASE: 300 RESPONDENTS

SOURCE: AFCOM 2006 MEMBERSHIP SURVEY

In addition, the mounting pressures of compliance with regulatory mandates, energy constraints and finding locations for expansion are often falling on the data center manager's shoulders, Smith noted.

“Senior management will not stand for finger-pointing between facilities and systems,” said John Oyhagaray, vice president of programs at 7x24 Exchange International in New York, a knowledge exchange for those who design, build, use and maintain information infrastructures. “There is no room for a segregation mind-set. In the data center, everyone is responsible for system uptime.

“The best thing an IT manager can do is to learn a little something in each of the areas they know nothing about and develop a base knowledge,” he added.

For example, Smith said that power concerns and the move toward eco-friendly computing makes some knowledge of electrical systems and heating, ventilation and air conditioning a must for data center workers.

“The density of computing has gone up tremendously because of technologies like blade servers,” Smith said. “That has all sorts of implications on your overall data center power and cooling.”

Smith noted that he has gained knowledge of facilities chores by working with experts during his 15 years on the job. “I'd buddy up with the facilities team; that's where I gained most of my knowledge,” he said.

Tim Mills, data center manager at Cardinal Health Inc., said he learned facilities skills during a recent data center upgrade from a Tier 1 electrical architecture with many single points of failure to a Tier 4 dual-bus infrastructure.

“While I don't have to understand the details, I do have to understand the major components and know how to react if we have an issue,” he said.

Doug Lauterbach, data center director at BayCare Health System in Clearwater, Fla., suggested that data center managers should also learn process management skills, which will become very important as companies turn to utility computing.

Lauterbach also believes that data center managers should study up on eco-friendly computing.

“We have extreme environmental pressures, and I have had to educate myself on what it means to be a ‘green’ data center,” he noted. “I'm trying to lower the ceiling of power consumption.” ■

Gittlen *is a freelance writer near Boston.*

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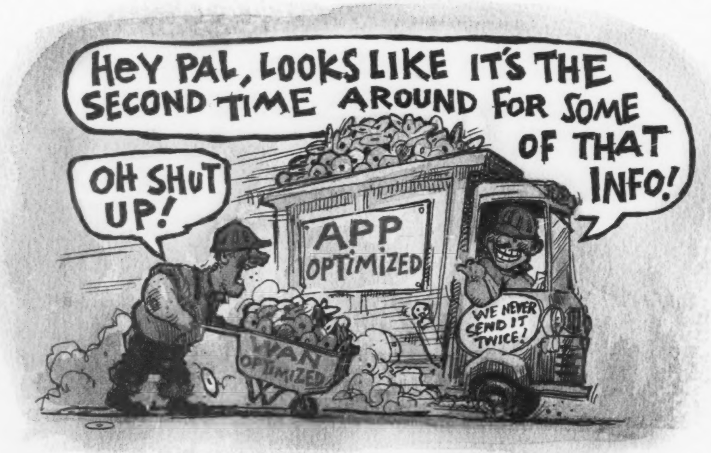
On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL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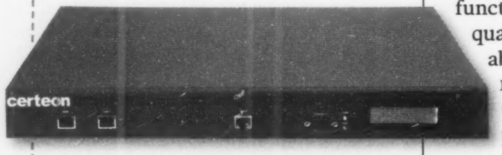
MATTHEW FAULKNER

Juice Apps, Not the WAN

IF THE bane of your existence is workers in remote offices complaining that the network is slow, you might be tempted to look at WAN acceleration technology. But the folks at Certeon Inc. in Burlington, Mass., argue that speeding up your applications makes more sense. Gareth Taube, vice president of worldwide marketing, explains that his company's S-Series appliances perform standard WAN acceleration through techniques like compression and quality-of-service priority routing. But the devices also contain "blueprints" of numerous package applications, such as Microsoft Office and Documentum, that make it possible to send only new data, not every bit in the program. Certeon's goal "is to never send the same data twice," Taube says. The central appliance in the data center knows which applications and data each appliance in the field has received, so it passes along only new information. In Q4, Certeon will add support for SAP AG's applications, and by the end of the year, it will ship Blueprint Developer Kit so you can create blueprints of your custom code. According to Shawn Cooney, Certeon's director of research, a new service-level agreement auditing function will be added in the next quarter as well. With it, you'll be able to show the remote office managers exactly how much Certeon has juiced your applications. Although the SLA tool itself won't make things go faster, "it helps with the finger-pointing," Cooney says drily.



⮝ **Certeon says its S-Series appliances not only perform standard WAN acceleration, but also minimize resending of data.**

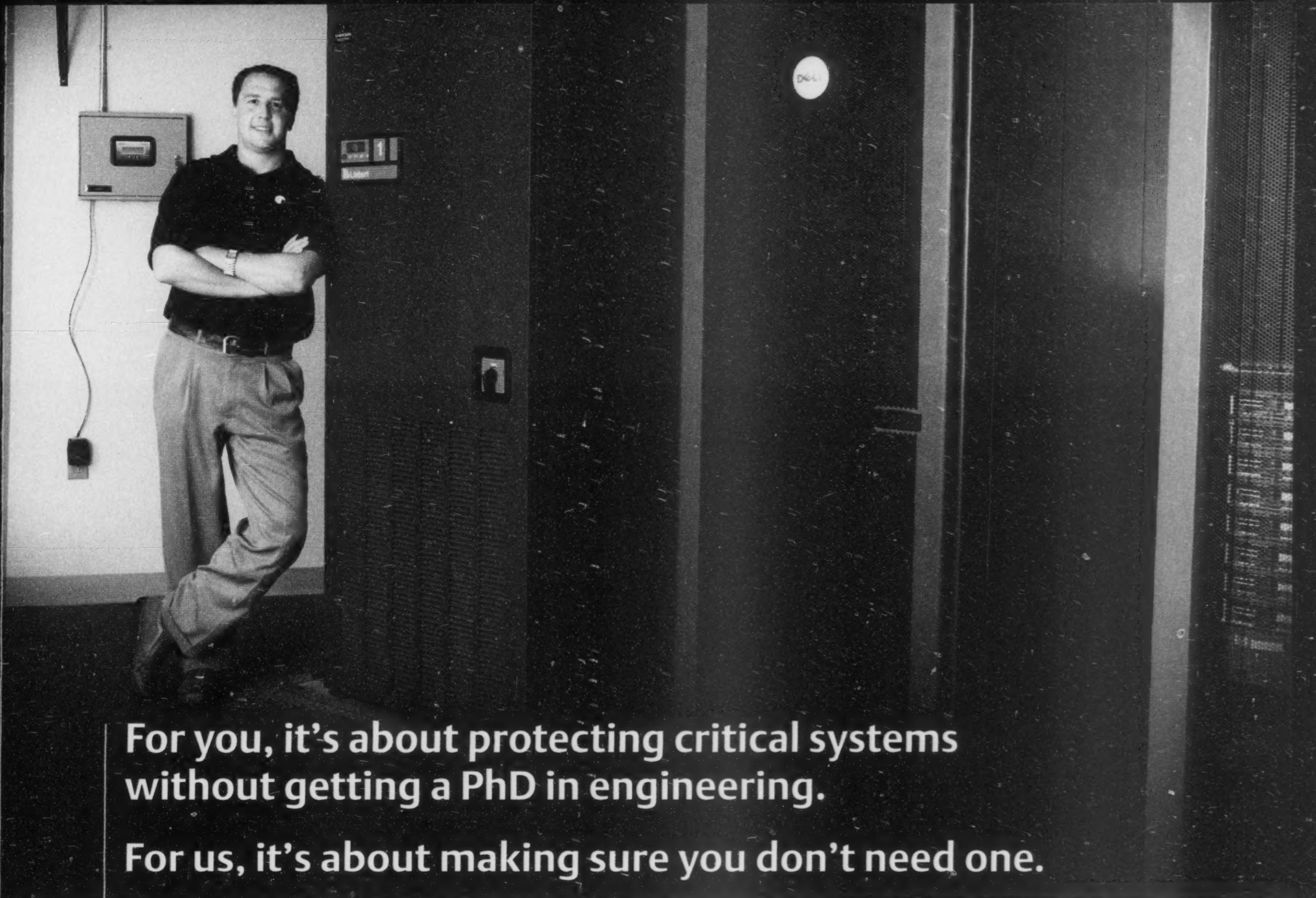
Desktops Top Web For Collaboration

The Internet can connect everyone, but ironically, it may not be the best way to deploy collaboration tools. That's what Barry Jinks, CEO of Vancouver, British Columbia-based Colligo Networks Inc., argues. He acknowledges the importance of wikis and blogs for collaborative ventures but contends that end users have "context problems" when they try to apply simple desktop features, such as drag-and-drop, to Web-based services. That can lead to productivity problems, Jinks claims, which is what collaboration is intended to overcome. Plus, he adds, IT managers worry about security when workers are sharing sensitive information on the Web. Jinks suggests that the most effective collaboration software will bring Web 2.0 features to the rich-client world of PCs. That's the thinking that went into an upgrade of Colligo for SharePoint due by early 2008 that includes deeper integration with Microsoft Outlook and new wiki- and blog-like capabilities. Seems the Web vs. desktop battle continues on another front.

Jinks: The Web isn't the best place to collaborate.

Lock Down Endpoint Data in Vault

If you worry about what users at the edge of your network have stored on their PCs and laptops, consider Rocket Software Inc.'s forthcoming Enterprise Edition of its Rocket Security Vault. According to Jared Hunter, business unit executive at the Newton, Mass.-based vendor, the software gives you centralized management for up to tens of thousands of endpoints and can delete or recover protected data remotely should a device be lost or stolen. One nifty little feature is that Rocket Security Vault can prevent the equally nifty Google Desktop Search tool from indexing data, thus eliminating another security hole. Hunter says the software stores important information in a password-protected, 256-bit encrypted virtual hard drive, or lockbox, that appears as a separate letter drive to the operating system. The software will be available next month, with pricing starting at $99 per seat. Microsoft Vista support is in the offing. ■



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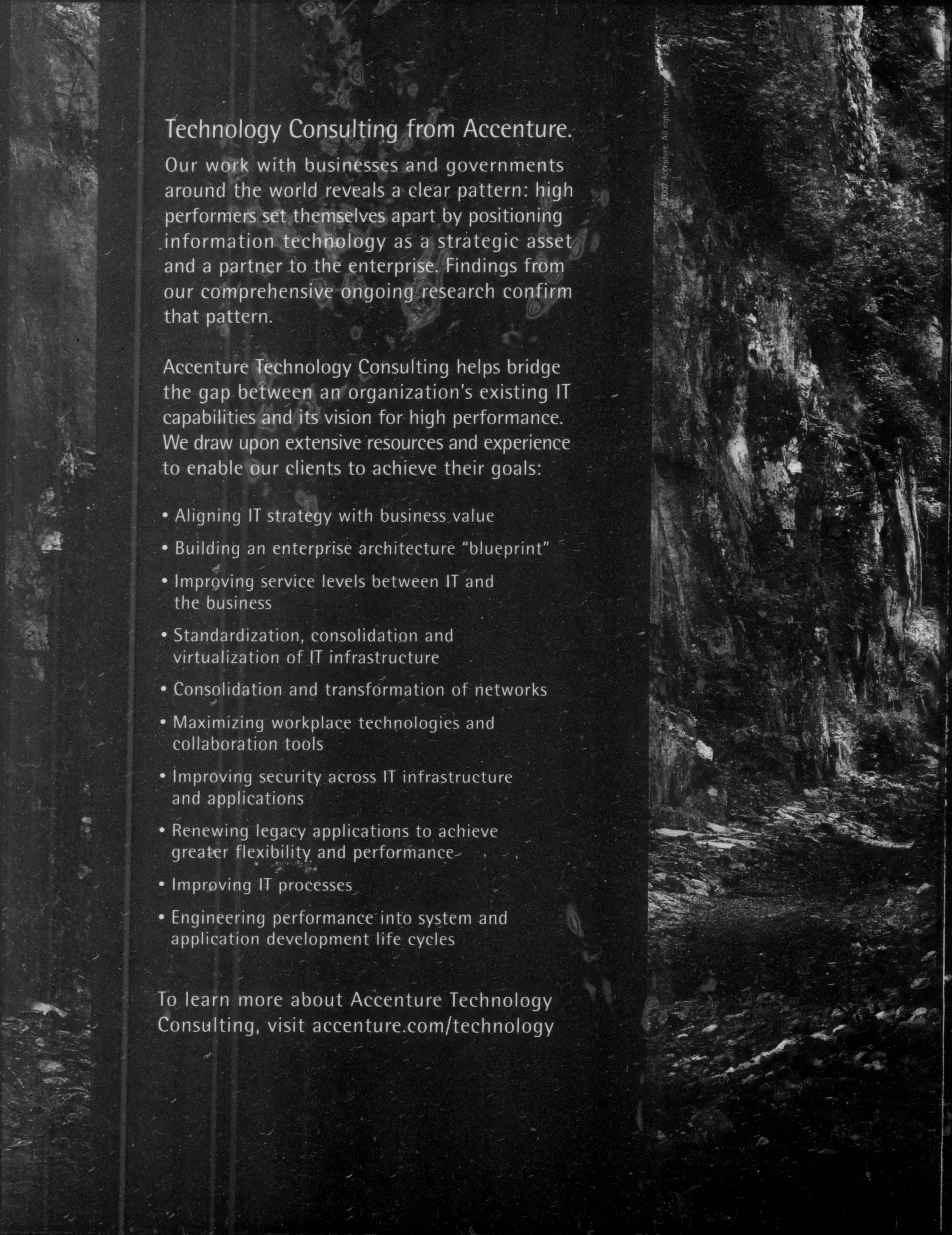

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- Standardization, consolidation and virtualization of IT infrastructure
- Consolidation and transformation of networks
- Maximizing workplace technologies and collaboration tools
- Improving security across IT infrastructure and applications
- Renewing legacy applications to achieve greater flexibility and performance
- Improving IT processes
- Engineering performance into system and application development life cycles

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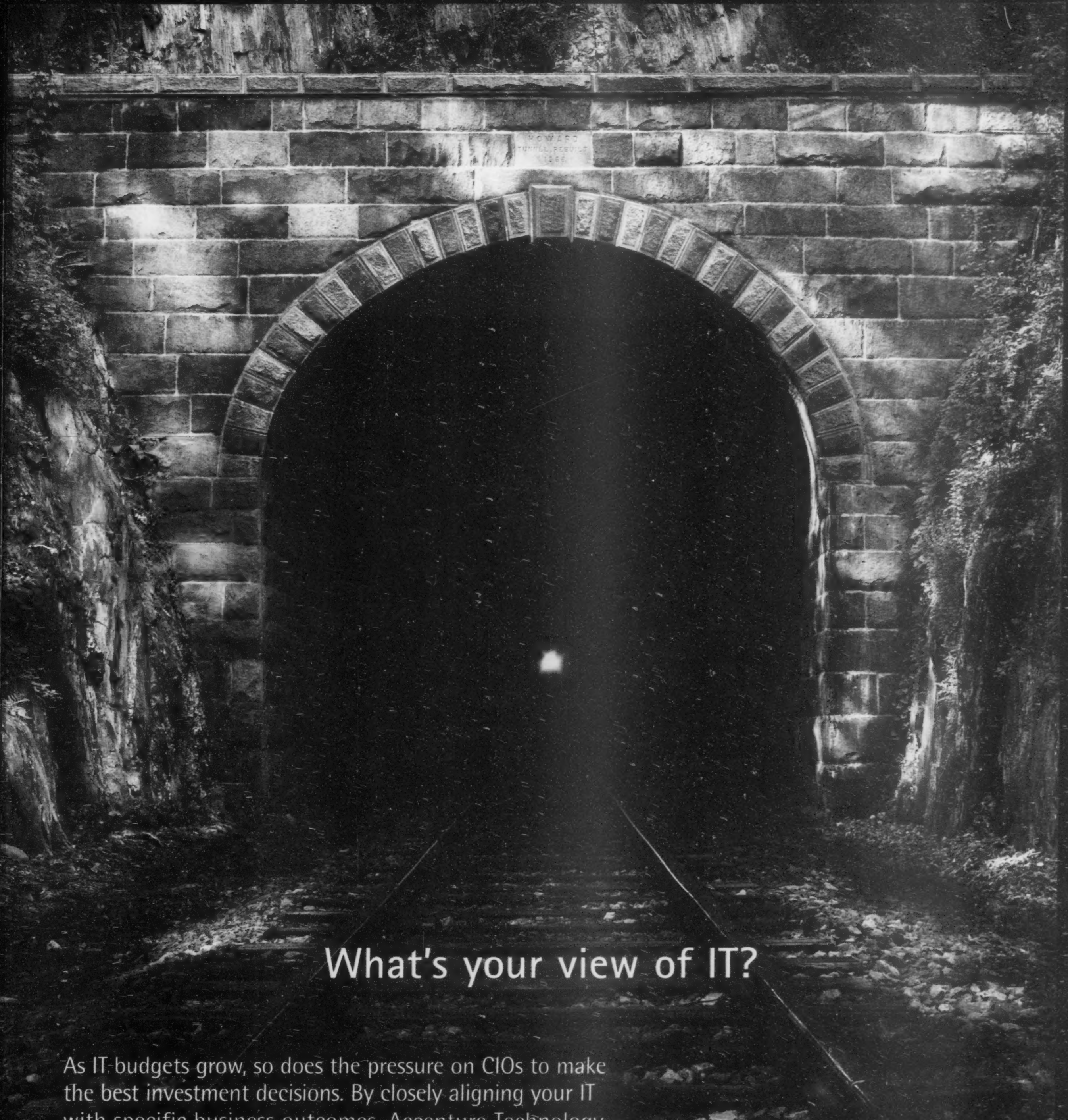

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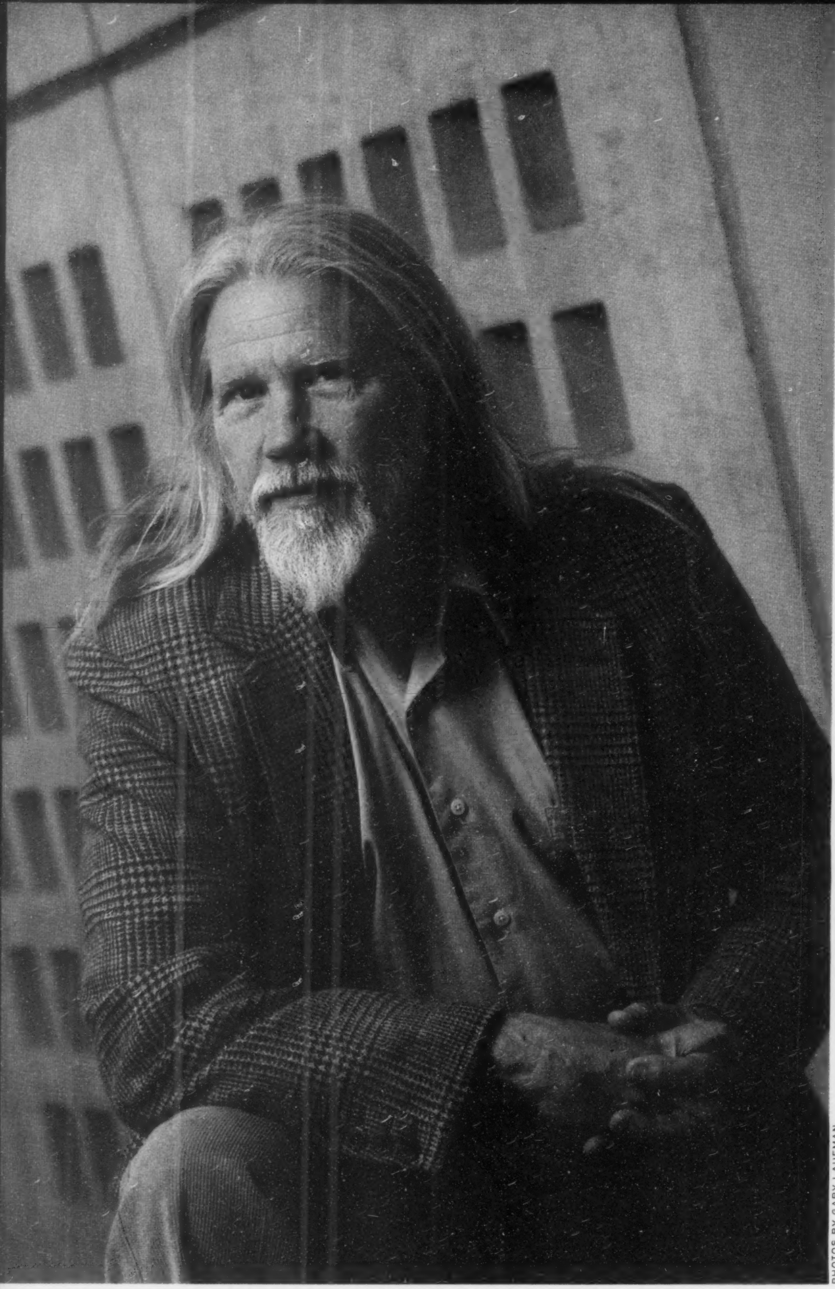

PHOTOS BY GARY LAUFMAN

THE GRILL

Whitfield Diffie

Sun's chief security officer talks about **encryption, spies as data miners** and the **end of computer security** as we know it.

Whitfield Diffie, *a co-inventor of public-key encryption, is chief security officer at Sun Microsystems Inc. and co-author with Susan Landau of* Privacy on the Line: The Politics of Wiretapping and Encryption *(The MIT Press, 2007).*

Why has public-key encryption been so important? Cryptography is the most flexible way we know of protecting communications in channels that we don't control. As we move a lot of value into the Internet and have Internet commerce and begin buying and selling things, that is basically the only way of protecting either the transactions or — where the goods are intellectual property — the goods themselves.

Before public-key cryptography, in order to be able to use cryptography with somebody, you had to share a secret with them, which is kind of an intimate relationship for somebody you

Continued on page 26

Dossier

Name: Whitfield Diffie

Title: Vice president and Sun fellow; chief security officer

Organization: Sun Microsystems Inc.

Location: Menlo Park, Calif.

Favorite nonsecurity technology: "I like lots of them: cars, space travel, bioengineering. Clearly, the most exciting technology today is biological."

What he's reading right now: "I'm reading a book called *Colossus*, because I'm reviewing it for the London Mathematical Society. It's about the group at Bletchley Park that built the sort of proto-computer, a thing called Colossus, to attack some high-grade German crypto-systems, higher grade than Enigma, which we used between Berlin and the Army commands."

Favorite movies: "They're all ancient. I'm very fond of *Casablanca* and *To Catch a Thief* and *Rear Window* and *The Big Sleep*. I don't go to movies much these days."

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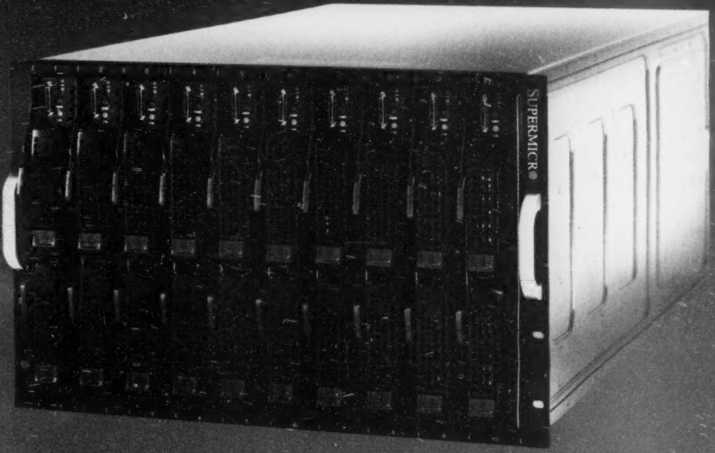

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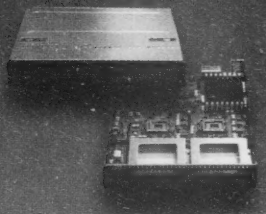
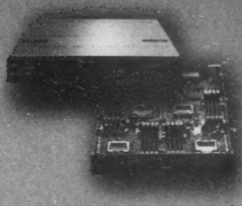
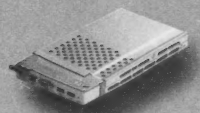


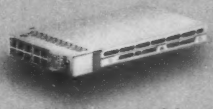
Intel Processor Blade w/ 3.5 in. Hot-swappable Drive Bays



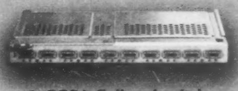
AMD Quad Processor Blade



Chassis Management Module



Gigabit Ethernet Module



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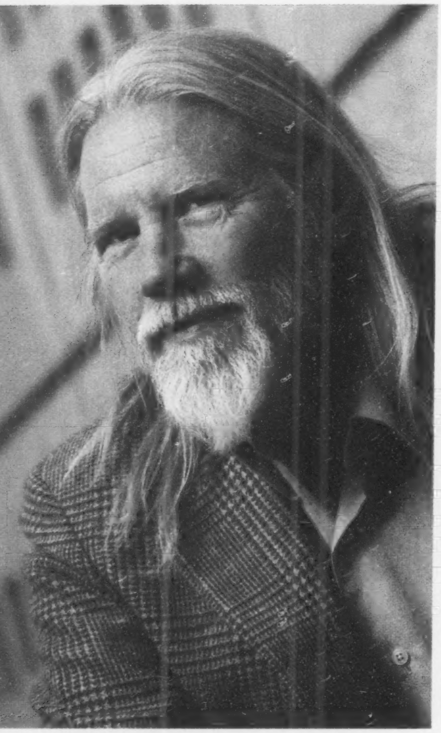

> **I think it's a very reasonable possibility that computer security as we talk about it today will go away completely.**

Continued from page 24

might never have met before. Public-key cryptography relaxed all of that and made it much easier to manage keys in a very diverse environment like Internet commerce, as opposed to the more traditional large but rather unified environments like the Department of Defense.

Why do you think that more e-mails aren't using encryption or digital signatures? I think it has to do with the difficulty of the key management. The key point is that cryptography has somehow not gotten itself tucked into the inner loop of development in these things. You really have to be a fan to be able to do it with your e-mail, and then you can really only do it with other people who are fans. So far, it's remained a niche market.

What's the difference between Internet communications and phone communications for cryptography and privacy? The key managerial virtue of cryptography is that it separates security from the medium of transmission of the message. Once the message has been encrypted, it doesn't matter how you send it — whether you send it by an optical fiber, which is already fairly secure, or you send it by digitizing it and putting it onto the Internet, or whether you send it by satellite.

Are either government or corporate policies on data retention and data mining having important effects on privacy or security? Yes. They're very good for our sales of storage.

Information is very much like oil and gold and a lot other things. Once we got what was there readily bubbling up on the surface, then we mined out the original resources and we developed better technology, and now we can work gold seams that are a tiny fraction of what would have been worked in the boom of the 1850s.

Intelligence and data flows are very much the same thing. If you look at World War II intelligence, it really is a matter of picking plums. The reason they concentrated on the cryptography of the time is that they were able to find, so to speak, the channels with the best information in them. Those channels had some kind of protection in them, and once [cryptographers] got through the protection, they had very good information handed to them on a plate.

If you look at circumstances facing real-world spies today, they have things available to them and other things they might want that aren't available to them. If they can do more processing on the things that are available to them, they may be able to get very good information they couldn't have gotten some time ago because they didn't have the techniques and the computing power. And so data mining is just going to become more and more a fact of life.

What will be the most significant change to security technologies in the next decade? Secure computing environments are probably the thing in which I see the path to growth. The cutting edge of information security has largely to do with what amount to censorship processes. Some is censorship outright in the sense that corporations don't want their employees wagering on the horses or looking at erotic pictures on the Web. Others are censorship of a less confrontational kind, because almost nobody wants to receive spam. If you could sharpen up your filters so that you censored out all of the spam and nothing else, you'd be very pleased.

However, in information security, we missed the most important things of the last 10, 15, 20 years. Viruses, worms and spam, in particular, were not things that we exactly foresaw and not things that we dealt with ahead of the curve.

I think it's a very reasonable possibility that computer security as we talk about it today will go away completely. If you say you're computing something securely today, you mean that you're doing it on your own computers and you've protected them however you consider it necessary. The major trend in computing is outsourcing. I've been predicting since at least 1980 that any real corporate computation is going to mostly occur on somebody else's computers. I think, as a practical matter, that will be what will dominate our understanding of security in computing and information security in general in the next decade.

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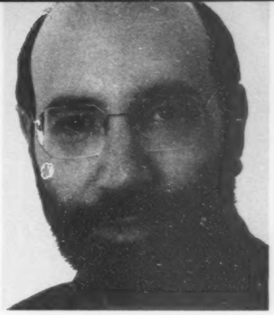
What do you foresee in 100 years? I would predict that the notion of "person" as we have it now is going to go away — that the merger between people and computers, between biology and computational phenomena, is going to happen much, much faster than people normally think.

Thirty years ago, I thought there were going to be designed human beings by the end of the 21st century, and now I think it's by the end of the first quarter.

— Interview by **Joyce Carpenter**

OPINION

Michael Gartenberg



Flashy vs. What Really Works

OH, IT WAS SO SEDUCTIVE, the way Apple's early iPhone ads built anticipation for the device by trumpeting the arrival of the "real" Internet on a cell phone. Nokia has headed in the same direction, with a full HTML browser on its N series of phones. As someone who spends a lot of time using all sorts of mobile devices, I think it might be time to step on the brakes. Is it really the best approach to give us the "real" Net on a mobile device?

I've noticed something about technology that I will grossly oversimplify by presenting two extremes: Stuff that wows people in a product demonstration often ends up being difficult to use effectively in the real world, and stuff that elicits yawns sometimes works great day to day.

Sadly, in our industry, the demos that wow are praised and the rest are ignored. Marketers have an incentive to include the wow factor at the expense of usability, since reviewers respond to flash and have less interest in digging into the real issues that real people will encounter in the real world.

In the case of mobile Internet experiences, the sad state of most approaches makes us all the more susceptible to the superficial glitz of getting a full desktoplike HTML experience on a mobile device. But do we really have to choose between a stripped-down version of the desktop experience and the false promise of the real thing? Clearly, there's a need for something more.

Consider the everyday situation of trying to read a newspaper online while on the go. On a device like a BlackBerry, enter the Web address *http://mobile.nytimes.com.* Spend some time there, and read some of the articles. Next, using a device like an iPhone that has a full HTML browser, go to the full-bore NYTimes.com site. Again, get the full experience. Finally, on either device, enter the URL *www.NYTimesriver.com.*

The 'real' Internet on a phone? It sounds so seductive.

The mobile *New York Times* site looks sexy. And that full-HTML NYTimes.com site is reassuringly familiar because of your desktop experience. But read an article on either of them, and you'll spend a lot of time clicking through to the end.

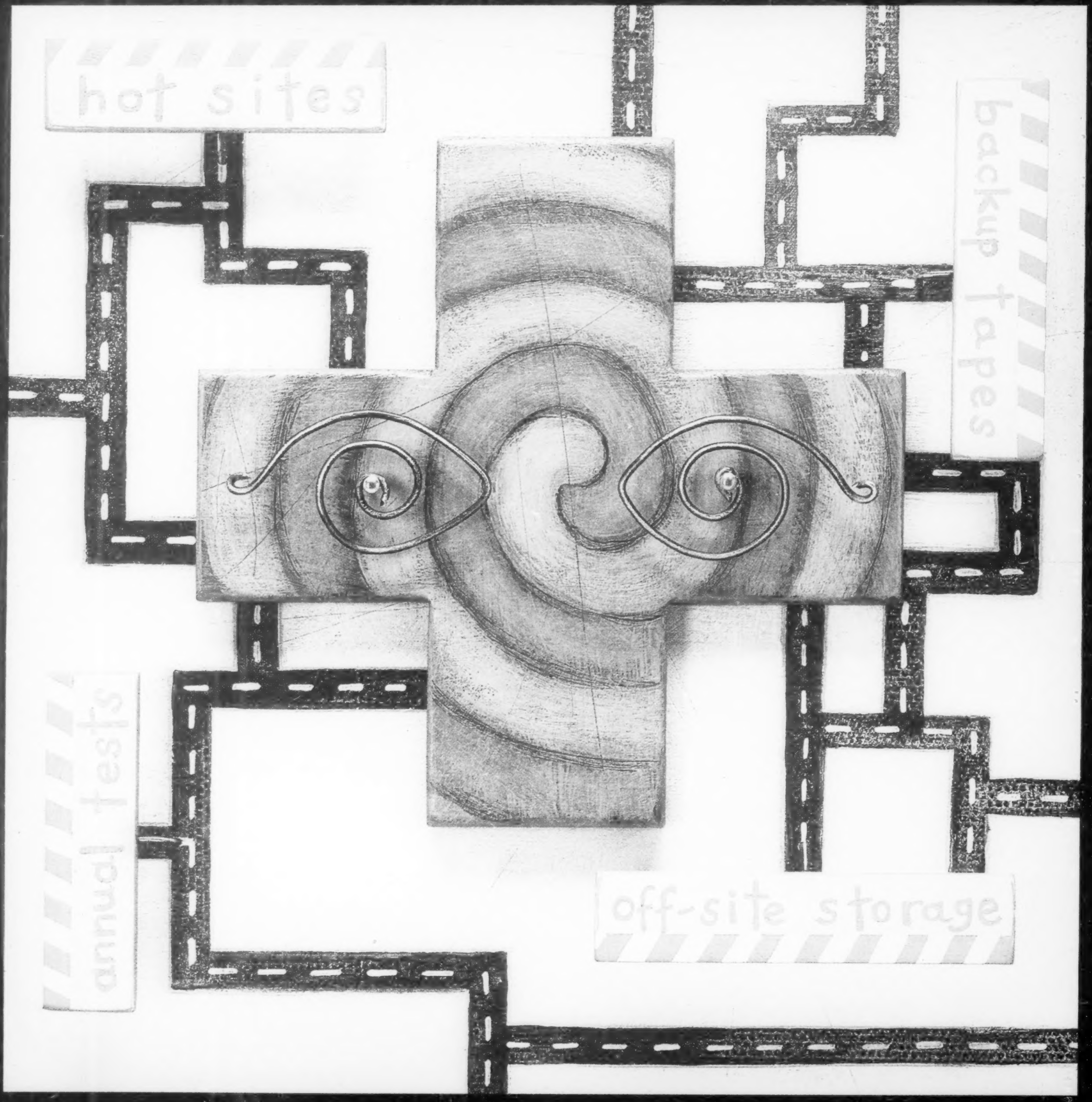
NYTimesriver.com, on the other hand, presents things in a nonflashy way, but notice how easy it is to scroll through that "river of news." Click on an article, and it shows up in its entirety, no clickthrough needed. Every screen on the site is formatted for mobile devices, so you don't have to scroll in several directions to see what's there. NYTimesriver.com represents the third way.

Now, why is NYTimesriver.com so much better than Mobile.nytimes.com? For one thing, it was developed by a guy named Dave Winer who just wanted to read *The New York Times* on the go and found the newspaper's official approach lacking. He had the skills to go the *Times* one better (oh, how I wish I could do that sort of thing), and he was a user who knew what would make the user experience better. Does anyone who developed the *Times'* application ever read the *Times* on a mobile device? It's hard to imagine.

We need mobile options that are truly optimized for the devices we use. I remember that in high school chemistry, we took Compound A and combined it with Compound B to create something brand-new that was neither A nor B. That's called synthesis, and it's what we need for our mobile devices. What we have today is symbiosis, two things that don't quite mesh. As corporate applications increasingly are mobile-enabled, the difference is something for IT departments to think about. ■

Michael Gartenberg *is vice president and research director for the personal technology and access and custom research groups at JupiterResearch in New York. Contact him at mgartenberg@optonline.net. His weblog and RSS feed are at http://weblogs.jupiterresearch.com/analysts/gartenberg.*

Backup tapes, hot sites, annual tests — the elements of yesterday's disaster recovery planning may lead to a dead end today. Do you know where your applications are?


hot sites
backup tapes
annual tests
off-site storage

THE Disaster Recovery Maze

BY GARY ANTHES

AH, THE GOOD OLD DAYS. Planning for disaster recovery, if it occurred at all, was one of the easier things an IT manager had to do.

You'd back up your mainframe to tape every night or over the weekend. If you were really conscientious, you'd send the tapes off-site and arrange for contingency processing at some other data center. Testing your recovery plan? You'd retrieve the tapes and see if you could read them.

Of course, things have gotten steadily more complicated over the years, with distributed and networked computers, n-tier computing, heterogeneous hardware and operating systems, virtualization, automated data feeds from external parties and more.

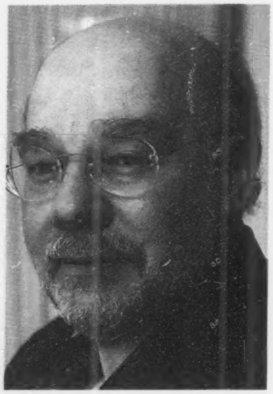
Adding to the confusion has been a steady change in the meaning of "disaster." Ten years ago, a four-hour outage might not have even been noticed by users or customers; today, it could cost you your job.

As a result, it has become vastly more difficult to prepare and test disaster recovery plans, and increasingly unlikely that you will go to bed at night feeling 100% sure that all your IT assets are protected.

Companies are dealing with these challenges in various ways. Some are reaching out to external parties for help with disaster recovery planning and hot sites, to which computer processing can be moved quickly in an emergency. Others have pulled back from these arrangements, saying they can better handle the complexity of disaster recovery in-house. Still others are essentially redefining disaster recovery by substituting notions of "disaster avoidance."

Jerry Grochow, CIO at MIT, illustrates the problem this way: "I once counted a dozen different boxes that had to be up for [an application] to work from end to end, and that's not unusual. So you ask your SAP application programmer, 'What's necessary to recover your system?' and you don't necessarily get the full picture, because the programmer doesn't

ILLUSTRATION BY MARIA RENDON



“The concept of disaster recovery as we knew it is changing.

JERRY GROCHOW, CIO, MIT

realize that the authentication server needs to be running so someone can even log on, and it’s running in a different data center.”

Not only are an organization’s IT assets no longer all located in a cozy glass room with a raised floor, they may not even be under the control of the IT department. Grochow recalls an earlier job at a brokerage firm that got automated data feeds from 40 external suppliers, noting that some financial institutions have 100 such connections. “How to recover a major data processing application when you have that many feeds is extremely complicated,” he says.

The challenges are legion. Schneider National Inc. in Green Bay, Wis., at one time contracted with a service provider for a disaster recovery hot site but recently decided to set up its own second data center to serve as a recovery facility. “Ours is a very complex and highly integrated technology environment,” says Paul Mueller, vice president of technology services at the trucking company, which has 36 locations in North America. “As complexity has increased, so has the difficulty associated with hot-site recovery.”

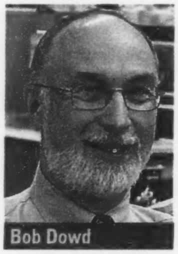
It proved difficult to accurately replicate Schneider’s operating environment at the external facility, Mueller says, and so his semiannual disaster recovery tests were never completely satisfactory. “Invariably, we encountered issues when we executed those tests, such as tapes not being correct,” he says. “Our ability to restore was problematic based on the hardware configurations, operating system configurations and so on.”

Mueller says he is much more comfortable with his new arrangement, but it came at a stiff price. Schneider’s two data centers are connected with redundant fiber-optic cables, redundant telephone systems and dual mainframes backing each other up. “We have invested heavily based on the risk to the enterprise and to the supply chains that we help our customers manage,” he says. “But we felt this investment was absolutely the right way to go.”

And the investment was not just in facilities. With the help of a consultant, Mueller’s staff interviewed 70 business managers and a few key customers. The interviews gleaned estimates of the losses that would result from various types and durations of outages, as well as managers’ recovery-time goals.

“When you have that information consolidated into an assessment document and you get to see the aggregate impact to the business of losing your data center, it becomes a very compelling story,” Mueller says.

Bob Dowd, CIO at Sonora Quest Laboratories LLC in Tempe, Ariz., says his company can’t afford a fully redundant hot site for disaster recovery, but he has taken other steps aimed at avoiding a disaster. Sonora Quest runs medical tests for 20,000 patients every night and gets the results to doctors by early the next morning, so it’s not hard to imagine the effect that a prolonged outage in its highly automated processes would have on the business.



Bob Dowd

“We have hardened the computer room and built in all kinds of redundancy, so if one node fails, we have immediate fail-over to another node,” Dowd says. The Tempe data center has redundant disks, two network cores and no single points of failure. Plus, it does two backups a day, one to a server and another to tapes that are taken off-site.

Still, Dowd worries about the data center, which sits near the end of a runway at the Phoenix airport. He’d like the safety of a remote backup facility, and he has an idea for getting one on the cheap.

Part of the Tempe data center is devoted to serving as a test environment for the labs’ systems — effectively a scaled-down duplicate of the production environment. If that were moved to Sonora Quest’s lab in Tucson, Ariz., it could be used as a backup for Tempe, Dowd reasons. “We’d be using it to save the business, not necessarily doing upgrades,” he explains.

VIRTUAL HEADACHES

Rod Flory, CIO at Lennox International Inc. in Richardson, Texas, says the heating and cooling system company has been rolling out server virtualization software to increase the efficiency and flexibility of its servers. But that has complicated disaster recovery planning, he says.

“With VMware, we are changing our server platforms more frequently — not adding servers, but changing mem-

Continued on page 32

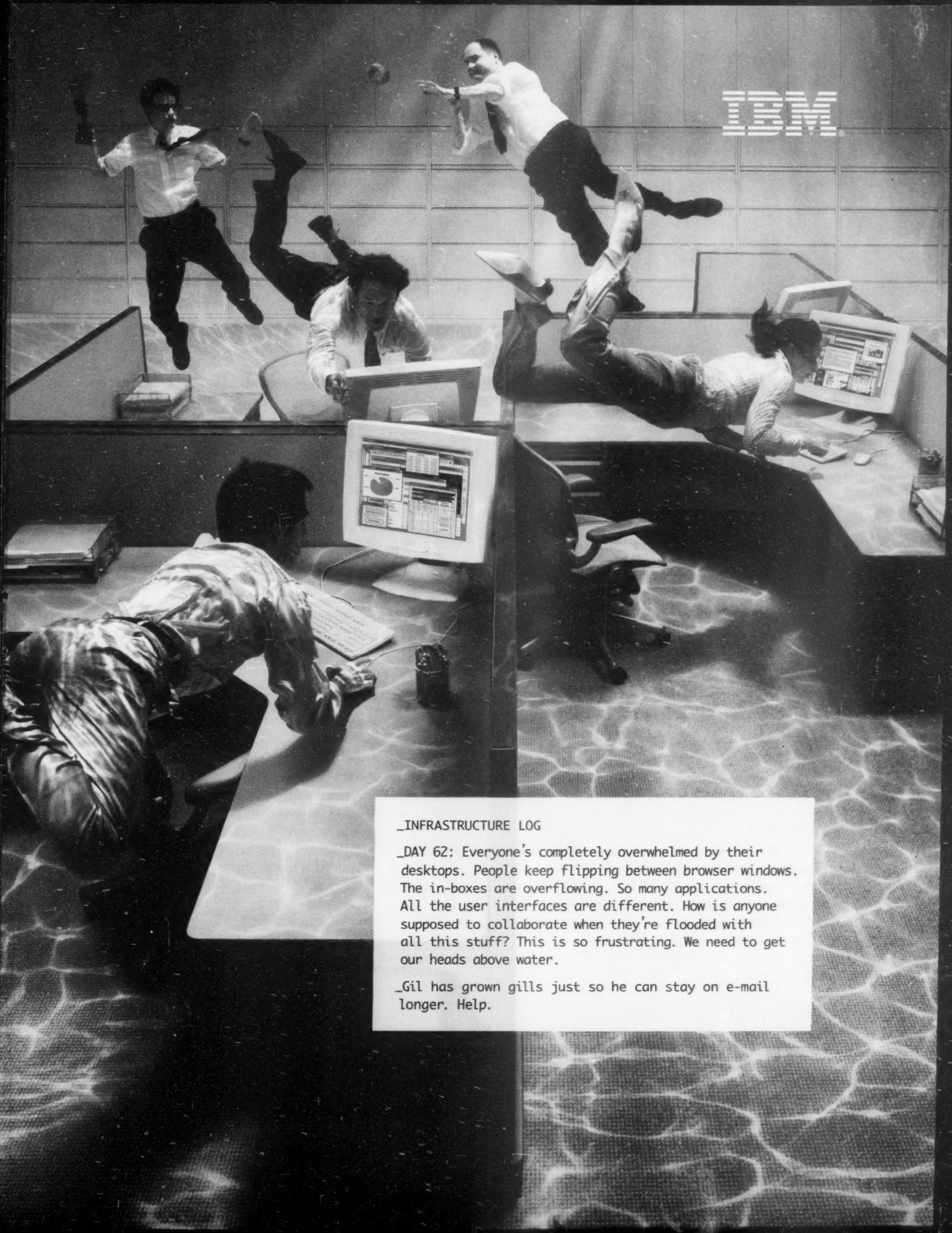
THE OUTSOURCING OPTION

There is a trend among large companies to bring disaster recovery in-house after having outsourced it, according to a recent report from Gartner Inc. Here are some of the reasons:

- **A desire to tighten recovery-time windows to 24 hours – and often to less than four hours, which vendors quote at prices that make customers cringe.**
- **The distance of recovery sites from the customer’s data center. They’re often too far, making the transport of tapes and personnel costly and slow.**
- **Inflexible, long-term contracts of three to five years, which may exceed the customer’s planning horizon.**
- **Inflexible testing options and environments.**

But before giving up on service providers, Gartner advises companies to consider that the vendors may have far greater assets in terms of personnel, equipment, power and processing redundancy, and disaster recovery expertise.

– GARY ANTHES

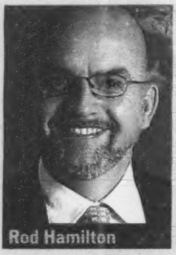


_INFRASTRUCTURE LOG

_DAY 62: Everyone's completely overwhelmed by their desktops. People keep flipping between browser windows. The in-boxes are overflowing. So many applications. All the user interfaces are different. How is anyone supposed to collaborate when they're flooded with all this stuff? This is so frustrating. We need to get our heads above water.

_Gil has grown gills just so he can stay on e-mail longer. Help.

A Contrarian View


Rod Hamilton

"I'VE BEEN IN IT FOR 33 YEARS, and I don't believe disaster recovery is getting harder at all," says Rod Hamilton, CIO of health insurance provider UnitedHealth Group International Inc. in Minneapolis.

While he acknowledges that applications, environments and business needs vary greatly from company to company, Hamilton says three trends have eased the pain for him.

1. A huge drop in the cost of communications. "Thirty-three years ago, there was no Internet, and the cost of connecting two sites was wildly exorbitant," says Hamilton. "Now, real-time backup to a remote site is economically feasible."

2. Business process outsourcing and offshoring. "In order to offshore a process, you have to make it portable, and as soon as you make it portable, it's easier to recover," Hamilton says.

3. Web-based applications. The move to the Web also has increased application portability, because users as well as developers can access applications from anywhere via the Internet. An operations center in Miami was frequently shut down during hurricane threats, Hamilton says, but it can now remain open longer because staffers can work from home. "It's possible, with redirects, to move the back end somewhere, and users on the Internet are none the wiser," he says.

And he says moving to Web services eases the burden of supporting and recovering desktop systems, because Web portals can deliver functionality to clients without application software having to be installed on them.

"I've lived through the main evolutionary moves in application deployment, with traditional mainframe systems requiring support at the center but virtually none at the desktop, through client/server, with elaborate needs to manage software at each desktop, back full circle to the Web," Hamilton says. "I view Web technology as a return to the good old days, from a management perspective."

– GARY ANTHES

Continued from page 30

ory, the number of CPUs in them and so on," Flory says. "So quarter to quarter, our environment looks different, and keeping up with that on the hot site is a challenge."

Flory says he tests his disaster recovery plan "religiously" once a year, and it's not a trivial effort. "It's a project," he says. "I take five people and set them aside for a few weeks."

> **"You look at situations like the bird flu. You are counting on five or six people who know how to execute the plan, but what if they are not available?**
>
> **ROD FLORY,** CIO, LENNOX INTERNATIONAL INC.

The tests run smoothly enough, Flory says, but he's considering involving a disaster recovery firm in a future test. "You look at situations like the bird flu. You are counting on five or six people who know how to execute the plan, but what if they are not available?" he says. "Can your plan be scripted well enough that you could hire a consulting group, give them the book and say, 'Here, execute the plan'?"

And there's another improvement Flory wants to make. Traditionally, Lennox's systems have been centralized at company headquarters, but more recently, functions such as e-mail and computer-aided design have been pushed out to servers at manufacturing sites where there are no disaster recovery capabilities.

But including those remote sites in the centralized plan is not simple because they don't have standard systems at the sites. "We are dealing with a legacy of autonomous decision-making," Flory says. "We may have Dell servers at one facility and IBM at the next. So you look at 15 to 20 major facilities, and you realize you don't have a common architecture."

He says Lennox will try to move the remote sites to a more common architecture — so the central data center can serve as a hot site for them — but that could take years.

Meanwhile, MIT is supplementing its two on-campus data centers with two additional leased facilities — one a few miles away and the other "many, many" miles away, says Grochow. But these will not be traditional disaster-recovery sites. All four will be in use all the time, with each critical application running at at least two of them. The four centers in total will not have a great deal of excess capacity or redundant equipment, so they will not be prohibitively expensive, Grochow says.

With this setup, the difficulty of testing a disaster recovery plan almost disappears. Because every site is running all the time, and because each critical application is running in more than one place, the plan is essentially tested every day, Grochow says. "The idea is to always be in a 'fail-soft' mode. If you have an architecture that allows certain things to be down, you are never completely out of business," he explains. "But if your architecture has lots of single points of failure, you have to have a very detailed recovery plan.

"The concept of disaster recovery as we knew it is changing," Grochow says. "I think we have gotten past the point where you can rely on a third party to provide hot-site recovery, because it has gotten too complicated." ■

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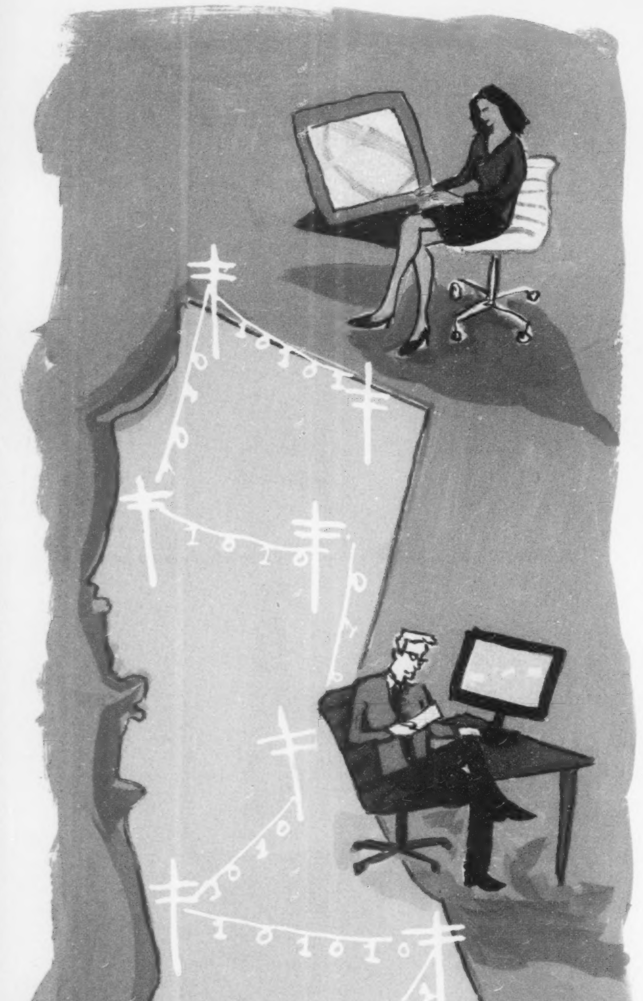
MANAGEMENT

Retooling California's Energy Market

IT is supporting a total revamp that's designed to provide predictability and pricing transparency.

By Thomas Hoffman



DIANE BIGDA/LILLA ROGERS STUDIO

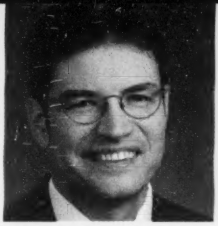
THE CALIFORNIA Independent System Operator (ISO) is in the midst of a $189 million effort that will enable it to completely redesign energy markets for the state.

The Market Redesign and Technology Upgrade (MRTU) initiative, which began in earnest in 2005, is scheduled to go into effect next February. It involves replacing most of the computer systems that have operated the California energy market since 1998, and more than half of the project spending is IT-related.

The goal is to bring predictability and transparency to an energy market that has been short on both.

In the old market structure, the state was divided into three broad regions for the purposes of buying and selling power. That structure didn't provide a good picture of supply and demand, says Steve Berberich, who has been CIO at the not-for-profit ISO since coming over from TXU Corp. in November 2005.

To improve the market's pricing structure, Folsom-based California ISO has decided to move in a direction similar to that of its counterparts in Texas, New York and New England by shifting to nodal pricing, also called locational marginal pricing. Under that model, California ISO will determine the cost of electricity by monitoring power available across 3,000 nodes located on substations, transformers and other equipment stretched along 25,000 circuit miles of transmission lines around the state. Nodal pricing will provide much more transparency to power producers than relying on just three



The more certainty you have, the more it tends to drive prices down.

CHUCK KING, VICE PRESIDENT OF MARKET DEVELOPMENT AND PROGRAM MANAGEMENT, CALIFORNIA ISO

pricing zones.

Data from the nodes will be transmitted to a scheduling interface and business rules system being developed by Siemens Power Transmission and Distribution Systems Inc. in Raleigh, N.C. That system will analyze power transmission schedules from the previous day throughout the state, combine that data with current usage figures and use an optimization algorithm to determine the next day's pricing.

"We're trying to optimize the flow of power and allocate costs accordingly," says Berberich. He hopes the new approach "will help us to avoid bottlenecks across the grids much further in advance" than by monitoring only in near real time as is currently done.

The shift to nodal pricing "is much more transparent to the market," says Chuck King, vice president of market development and program management at California ISO. With greater price transparency and the resulting greater certainty on pricing, power companies can hedge their generation and transmission costs more effectively. "The more certainty you have, the more it tends to drive prices down," says King.

Although King says California ISO has not conducted a detailed return-on-investment analysis on the MRTU project, "we do expect to see a significant reduction" in out-of-market costs, he says.

That means reducing the amount of electricity that California ISO has to purchase from power companies outside of the state, says Debi LeVine, the organization's director of market services. These costs are distributed among all grid users and generally are not "hedgeable," which drives prices up.

We're trying to optimize the flow of power and allocate costs accordingly.

STEVE BERBERICH, CIO, CALIFORNIA ISO

CUSTOMERS WIN

Providing power companies with greater visibility on pricing and improved forecasting with day-ahead planning could also reduce costs for consumers, says Frank Wolak, a Stanford University economist who is also chairman of an independent market surveillance committee for California ISO. "We hope to slowly transition that [pricing transparency] to customers' bills," he says.

California ISO is also building a scalable settlement and billing system that's being designed to grow with the state's energy needs, says King. The previous Unix-based system is being replaced by one Paris-based Areva is building that will run on Sun servers.

Despite the huge technology component, the biggest challenge of this project isn't the technical difficulty of gathering and crunching data from 3,000 nodes. That's already been figured out by vendors and IT staffers who have done similar work at ISOs in New York, New England and Texas. The hard part for Berberich and other project team members is to determine how the market should work.

California ISO is doing that by drawing input from power companies, regulators such as the Federal Energy Regulatory Commission and others, and using that data to define market rules for the vendors that are building the various support systems.

"We don't define the market rules in a vacuum," says Berberich. "We do it in concert with about 100 market participants — generators, traders, load-serving participants and utilities."

This broad stakeholder input is essential, Wolak says, because California gets about 25% of its electricity from other states, and one-third of the electricity consumed in California is generated by hydroelectric dams.

"Cal ISO does an outstanding job of taking stakeholder input and designing something that works for them," he says.

And that's no simple accomplishment, considering the complexity of running an energy market. "You have to balance supply and demand every second," Wolak says. "If you don't, the lights go out." ■

BACK TO THE FUTURE

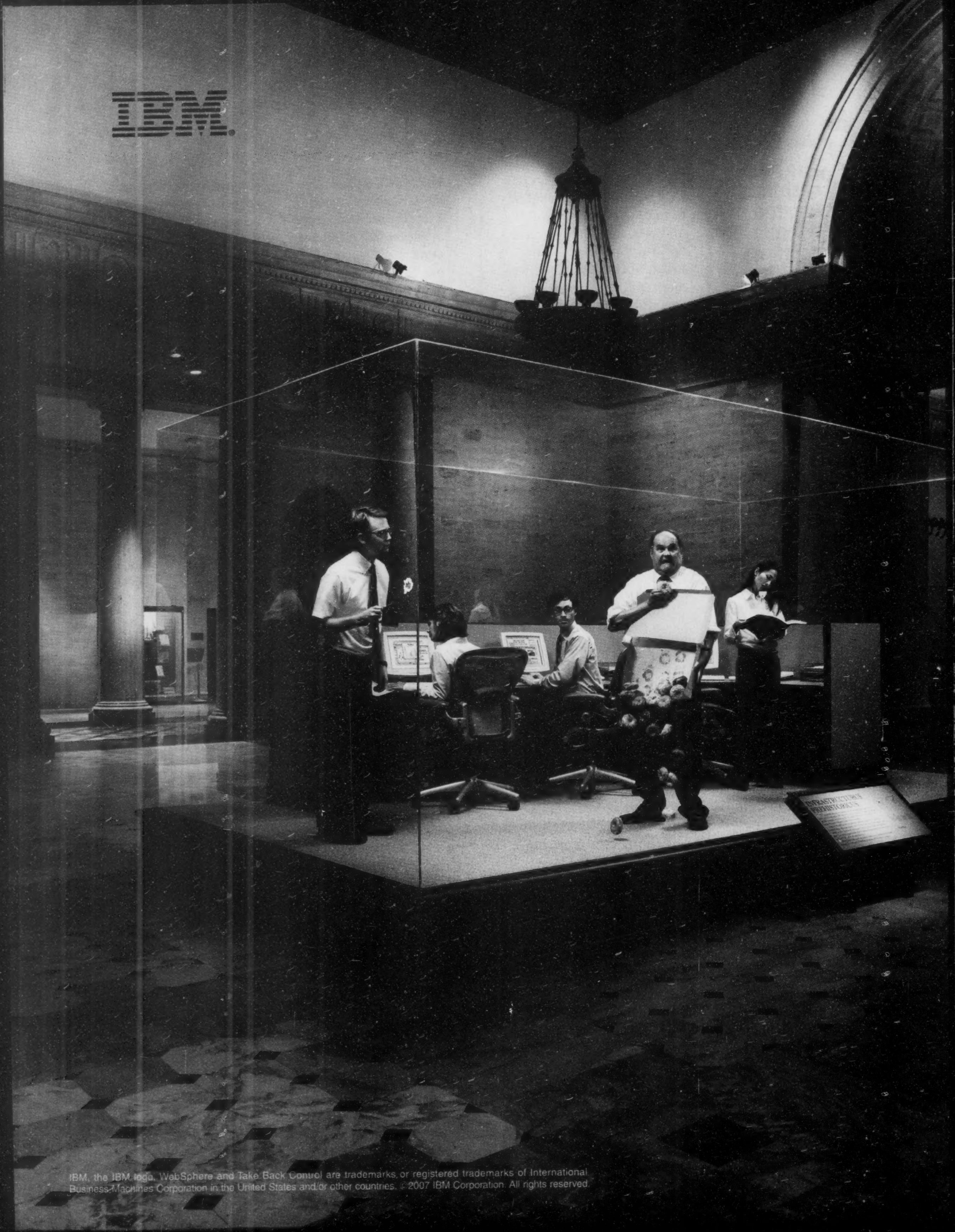
WHEN THE quasi-governmental California Power Exchange went bankrupt during the state's 2001 energy crisis, California lost its day-ahead energy market.

Before that, a software system predicted how much energy the state needed for each day based on the weather forecast and other criteria. When the California Power Exchange existed, it used that data to operate a day-ahead market that delivered most of the energy needed for the next day to the California ISO in the form of hour-by-hour energy schedules. California ISO would then monitor the actual flow of the energy scheduled, and, if needed, adjust the amount of electricity required from generators at the most economical cost possible to meet customer demand while allowing sufficient reserves for contingencies.

The absence of the day-ahead market requires California ISO to balance supply and demand in real time – a much more difficult proposition, since without day-ahead schedules, it can't identify potential overloads on the grid and act to alleviate them. That can result in inefficient use of transmission lines and generators, leading to higher costs.

Among other things, the market redesign effort will enable the ISO to return to day-ahead scheduling.

– THOMAS HOFFMAN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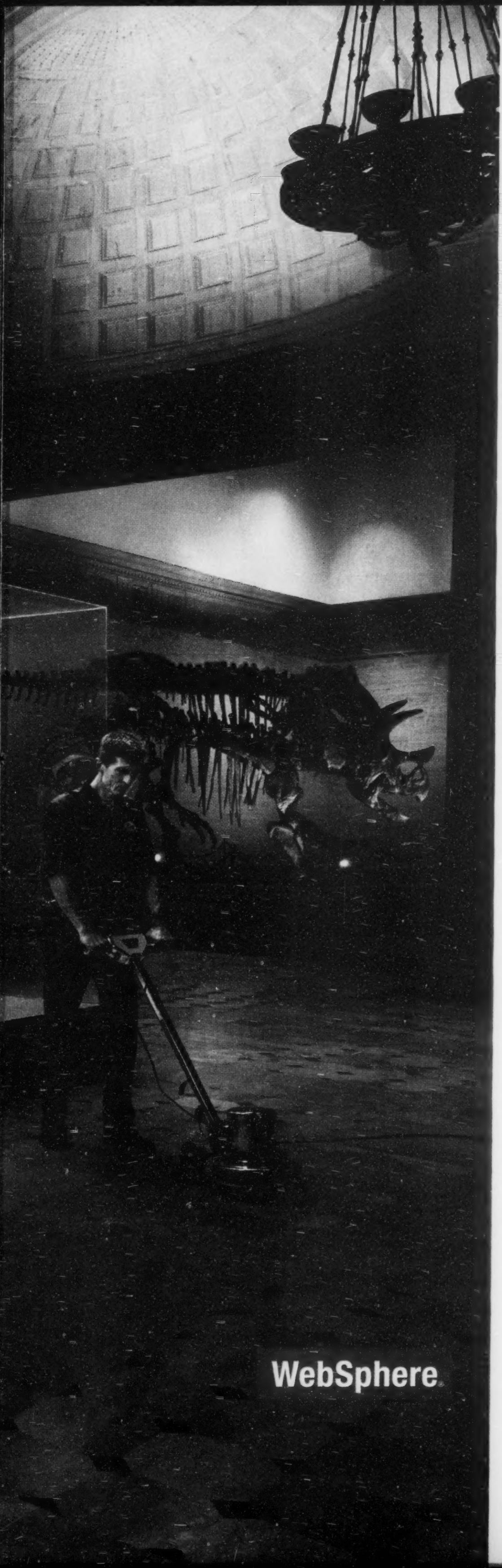

_INFRASTRUCTURE LOG

_DAY 79: This is out of control! Our IT environment is rigid and inflexible. Our business needs are changing, but our environment isn't built to change with them. We can't adapt. Oh, no...I was afraid of this. We're so rigid we're stuck in time.

_*Infrastructurus prehistoricus*. I've read about this.

_DAY 80: I'm taking back control with IBM SOA solutions. Now we can align business goals with our IT. We have the hardware, software and services we need to respond to change. Strategy, planning and implementation are in tune with our specific business needs. Now we can deploy and update business processes faster and more efficiently.

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SECURITY MANAGER'S JOURNAL | C.J. KELLY

Security Crashes Into Productivity

Our manager didn't tell users that they could have **laptops,** but she's the one who has to tell them that **they can't**.

Trouble Ticket

AT ISSUE: A department is letting some staffers use wireless laptops.

ACTION PLAN: Pull them back, explain why, and get on the stick to address security concerns.

SECURITY CAN sometimes come crashing up against productivity, and when it does, security must prevail. That's because my state agency is a maintainer of records covered by HIPAA rules. One blunder, and we're front-page news. Not on my watch, thanks.

Given the consequences of jeopardizing client data, I think my obsession with security is good for the agency. But for our users, it can seem as if we're living in the Dark Ages. Many technologies that are commonplace in the corporate world and even in other government agencies haven't won my approval yet, and they won't until I am thoroughly convinced that they won't undermine our security efforts.

Still, things can slip through, since determined users don't always go through proper channels. When that happens, I have the unenviable job of rolling back the technological timeline for the wayward users. They thought it was the 21st century — ha! Get back to the Dark Ages with the rest of us.

So it was that I had to tell our agency's program manager that the four productivity-enhancing laptops with Wi-Fi that his group was using were leaving us vulnerable to a serious breach. Sorry, but the Wi-Fi capability is going to have to be disabled, the laptops configured with our standard image and the hard drives encrypted. Users can check out a laptop when needed. Otherwise, the laptops stay put, connected directly to the network so they can be patched and updated. No working at home for them.

Naturally, this put a kink in his plan. "What good are laptops if we can't go wireless, work on the road and work at home?" he asked. He had transferred from another agency, where he had carried a laptop. I explained that we have different security constraints and since we don't yet have a foolproof way of securing mobile devices, we don't want to put our data at risk.

Would employees share what I guess you would have to call my obsessive level of caution?

We allowed laptops until last year, when one news story after another told about laptops that had gone missing. They often held data such as patients' names and Social Security numbers. The case of the missing Veterans Administration laptop alone was enough to curl your hair if you're in charge of securing similar information.

THE LUCKY FEW

Now, only systems administrators and a few chiefs trained in laptop security have laptops. Even then, they can't synchronize their My Documents folders from the network drive to the laptop. Protected data remains within the protected network.

I am one of those people with a laptop, and I take it everywhere. But I am extremely cautious. I never use Wi-Fi. Instead, I have a broadband wireless card, which eliminates the risk of a hacker sniffing my wireless traffic or hijacking my wireless session. My laptop has host-based intrusion prevention and a firewall, and it is set up for automatic patches and updates.

When I travel, my eyes never leave my laptop. At airports, I have a set order for putting my belongings on the conveyer belt so that when my laptop emerges, I am already at the other end to retrieve it. Even my purse is a lower priority. I use a small laptop case that slides under the seat — no overhead compartments. I try not to leave it in a hotel room, but if I must, I hang out a "Do Not Disturb" sign and put the laptop in the room safe. I refuse housekeeping services. Someone from the hotel could still enter my room, but I eliminate as much risk as possible.

Would our employees have this same level of — I guess you would have to call it — obsessive caution? Those news headlines give me my answer.

Luckily, the program manager didn't let his disappointment blind him to the sincerity of my goals. I assured him that overcoming these security concerns is on our agenda. ■

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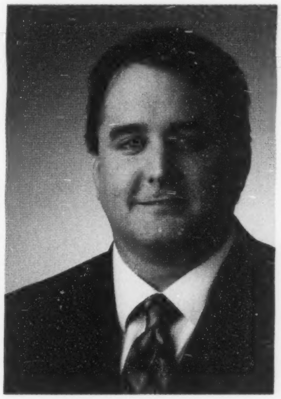
This week's journal is written by a real security manager, **"C.J. Kelly,"** *whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com.*

Outsourcing The Right Way

Shared goals and good management are key.

By Sean C. Barker



EVERYONE KNOWS of a horror story related to outsourcing. As a result, many IT people seem to think of outsourcers as an axis of evil that should be eliminated or at least squeezed for every penny. But outsourcing, like any business relationship, is more nuanced than that.

Companies engaging in outsourcing relationships frequently make mistakes. They document processes poorly, ignore training, rush to implementation or focus only on savings. These errors result in a "your mess for less" approach in which the outsourcer moves your people, process and systems in whole or in part across to its company while figuring out a way to cut staff and provide the same service.

But there's a better way.

The first thing to understand is that an outsourcer, just like your company, is in business to make money. Therefore, its priority is the same as yours. This isn't a bad thing; on the contrary, it's good. A profitable outsourcer is a healthy partner, and as a customer, you want a solid company to work with. Second, outsourcing can work out well or badly, depending on how well you manage it.

The five steps below are designed to guide you to a successful outsourcing experience.

1 MAINTAIN YOUR CONTROL. Don't make the mistake of ceding complete control of your infrastructure, applications or both to an outsourcer. Companies that do this mistakenly assume that the outsourcer knows more than they do and therefore should be able to serve all of their needs better, faster and cheaper. Instead, keep or hire key people in each area to maintain control and guide and govern the outsourcer.

2 MEASURE, MEASURE, MEASURE. Implement metrics that are important to your business, such as performance level, number of incidents, development cycle times or speed to market. Assign staffers who understand the metrics to collect and benchmark them and then combine them to create context. Take, for example, number of incidents: The raw data doesn't tell you how those incidents affected production or whether a project was slowed because people who were needed to code an application were redirected to solve problems resulting from the incident.

3 MARRY THE PARTNER. An outsourcing relationship requires give and take. Even the best contracts include gray areas that can be interpreted in various ways. The deal must work for both companies, so mutual benefit is the goal. For example, look for ways to increase the outsourcer's revenue within its core competencies. If you can reasonably redirect dollars you're already spending toward the outsourcer, you'll likely get a better deal while helping to grow its business — a win for both sides.

Your Mess for Less

AVOID THESE COMMON OUTSOURCING MISTAKES

- Poorly documented processes
- Rush to implementation
- Inattention to training
- A savings-only focus
- Abdication of management responsibility

4 TAKE RESPONSIBILITY FOR REQUIREMENTS. Incomplete or misunderstood requirements can send outsourcing over budget or completely over the edge. You know your business better than the outsourcer ever will, so it's up to you to gather requirements from your business perspective and explain them to the outsourcer. This will help ensure that your needs are well understood and documented, and it will help to educate the outsourcer about your business.

5 REVIEW REGULARLY. As you would with any internal department, review the status of both the operational infrastructure and the application development on a regular basis. Combine a monthly review — with clear measures to indicate progress or problems — with a quarterly review of the relationship. Some key measures are labor usage (capital vs. expense), project and budget status, ticket statistics, incidents with business impact and customer satisfaction.

Remember, an outsourcing deal, if managed correctly, can be good for all parties. ■

Barker *is the vice president for worldwide operations at a global Fortune 100 company. Contact him at sean_barker@yahoo.com.*

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_INFRASTRUCTURE LOG

_DAY 82: There are so many risks out there. So many things that can happen to our business: natural disasters, spikes in traffic, mergers. How do we prepare? One in three companies don't recover from unplanned downtime.[1] Would we?

_Gil has wrapped everything in the office with bubble wrap. Everything. Just to be safe.

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_No more bubble wrap. And I have to mail a package. Great.

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Waiting For the GO

Provisioning users can be maddeningly slow, but software can speed and simplify the process. **By Sue Hildreth**

AT THE BryanLGH Medical Center in Lincoln, Neb., computers are nearly as vital to patient care as beds and meds. The center's 3,500 physicians and employees rely on 170 applications to handle everything from registering patients and scheduling tests to ordering medical supplies and producing lab reports. IT is fundamental to hospital operations.

But until this year, the hospital's staff had to wait days — sometimes a week or more — to get access to new applications or to make changes to access rights for an existing application. And when a fresh crop of medical students arrived for internships, their wait to get online could be even longer.

"It was a growing problem," says Rich Marreel, CIO at BryanLGH. "We had two and a half full-time employees dedicated to provisioning, and they were constantly behind."

That delay in provisioning users with their IDs and passwords sometimes drove frustrated users to borrow co-workers' IDs, which in turn created a potential security risk.

The IT department at BryanLGH had all of the symptoms of a chronic case of user provisioning overload. The prescription: provisioning software.

User provisioning software automates the process of creating, changing or deleting user accounts. It's part of the larger identity and access management market, which also includes products for single sign-on and authentication/authorization.

Unlike single sign-on or authentication, account provisioning isn't a daily concern for users. But when employees need new accounts or changes in their existing account access, they really notice how long the process takes. And when they get tired of waiting, crankiness can lead to security lapses.

Since BryanLGH began deploying Sentillion Inc.'s Provisioning Manager application in 2005, it has dramatically cut the time needed to equip new employees with accounts and passwords. In some cases, it now takes just minutes, says Marreel.

The system has also helped the hospital comply with the Health Insurance Portability and Accountability Act by providing reports and an auditable, consistent process for assigning access to patient data.

CONSISTENT RULES

In fact, regulations aimed at protecting consumer data are driving more companies to turn to automated provisioning. The Sarbanes-Oxley Act was one reason why Raymond James Financial Inc. in St. Petersburg, Fla., replaced its manual provisioning process with an automated one supported by SAP NetWeaver Identity Center (formerly Maxware Identity Center).

Identity Center "has allowed us to show auditors that we're following the same business rules all of the time," says Daryl Bilderbeck, senior applications security engineer at the investment and financial planning firm.

Continued on page 44

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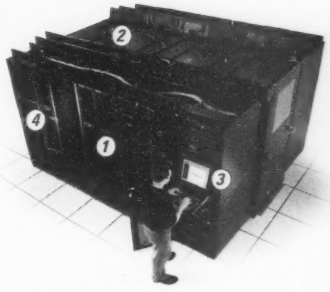

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Rules and Roles

USER PROVISIONING applications typically have workflow engines to assign accounts and apply corporate security rules. The customer must provide the appropriate workflow rules, however.

"You have to define what your workflow looks like and map it into the tool," explains Jay O'Donnell, president of Entryport, a systems integrator that will launch its own provisioning product next month.

Customers must also create user access roles – categories of users with differing security rights and restrictions. Workers are then assigned one or more of these roles when provisioned with application access.

Creating these roles can be a big challenge. It's easy to create too many or too few. "We did not want 4,000 roles for 12,000 employees," notes Denise Watson, system access roles analyst at Raymond James Financial. "Currently we only have about 40 roles."

To get the right number of roles, Watson recommends a collaborative approach between IT and users. "We go into a department and ask what 80% of the people have in common in terms of IT access. Then we propose that as a role," she says. "After that, it's a negotiation process."

– SUE HILDRETH

Continued from page 42

Another benefit, is that it now takes just one day to provision new workers instead of two or three weeks, according to Denise Watson, system access roles analyst at Raymond James. "It's critical to have new financial advisers up and running immediately," she notes.

CUSTOMER ACCESS

Some organizations need to provision their customers with application access. For example, the H. Lee Moffitt Cancer Center & Research Institute needed to speed up the registration process for patients who wanted to participate in the center's online clinical surveys. To enable patients to self-register via a Web portal, the cancer center deployed Courion Corp.'s AccountCourier application. AccountCourier automatically queries the hospital's patient database to verify a patient's authorization for an account. No patient has to wait for a human employee to sign him up.

"Our business requirement is to have a 24-by-7 ability for our patients to participate," explains Donald Wasylyna, H. Lee Moffitt's information security officer. "We wanted to make it as user-friendly and accessible as possible, because as soon as folks see any roadblock, they may decide not to participate."

Railinc Corp., a Cary, N.C.-based provider of real-time rail data and services to North American railroads and shippers, also implemented provisioning software for its customers.

A subsidiary of the Association of American Railroads, Railinc provides hosted applications and data for the railroad industry. The company has 5,000 customers that require quick access to its 30 industry applications and databases. Railinc used the customization features in Entrust Inc.'s GetAccess single sign-on and provisioning application to create a context-sensitive interface, so that each customer sees only the data pertaining to its own operations.

"Customers go to our Web site and create their user profile, ID and password," explains Rob Simora, assistant vice president for application development at Railinc.

Simora notes that the company hasn't automated its internal provisioning because it uses only five or six Windows-based applications. "We're Microsoft-centric, with Active Directory, and there's not that much for us to administer," says Simora.

In fact, only organizations with 2,500 users or more are likely to need user provisioning software, says Barry Runyon, an analyst at Gartner Inc. Other characteristics of a company that could benefit from provisioning technology include a heterogeneous IT environment, high turnover in the user base, and the need to comply with regulatory requirements.

Tech blog
filtered by humans

A provisioning product must be integrated with a range of target applications, such as Microsoft products and mainframe systems, as well as with human resources data sources and directories. It must also provide a client interface that works for both IT and users. With all of these requirements, provisioning systems are rarely plug-and-play.

"One of the problems is that vendors are very good at selling what their suites can become, not what the suites actually are," says Jay O'Donnell, president of Entryport Corp., a Toronto-based systems integration company that's launching its own provisioning product, Employee Lifecycle Manager, in September.

"What they are is a bunch of products that act as tool kits," O'Donnell says. "It's up to the integrator or customer to take those products and assemble them together."

FLUFF AND BUFF

Often, integrators and customers must customize. For instance, when Railinc purchased GetAccess, it had to create a different user interface, one that nontechnical users could easily navigate.

O'Donnell says that's not uncommon with user provisioning products. "Customers sometimes have to build business logic layers on top," he says.

PICKING A PRODUCT

Not all user provisioning products are alike, notes Gartner analyst Barry Runyon. He recommends that you look for the following characteristics when evaluating provisioning applications:

- Directory-neutrality
- Off-the-shelf interfaces, adapters and connectors for all of the major applications that must be supported
- The ability to provision based on user preferences and application attributes, not just on identity and credentials
- The use of a role- and rule-based access control model
- The capacity to allow users to initiate their own access requests
- Support for multiple roles for individual users

Adapters and connectors are another area in which provisioning applications often differ. Most major vendors have good connector support, but they may not work as the customer envisions, O'Donnell says. For instance, there may not be enough application programming interfaces (API) to support certain provisioning functions. "The devil is in the details of connectors," says O'Donnell.

Raymond James Financial found that out when it was forced to scrap its first user-provisioning implementation. The first vendor's adapters just weren't adequate for the company's needs.

"Their support was very slow in getting us answers," says Bilderbeck. "You never really find out the details of a product until you get into the implementation."

Raymond James opted to start over using Identity Center because, according to Bilderbeck, it had much more flexibility in its connectors. "We provision to a SQL database, LDAP directories and also some Web service APIs, and we're able to do that pretty efficiently," he says.

Despite the time and effort involved in implementation, user provisioning software is gaining in popularity, largely as a result of regulatory pressures and the increasing complexity of enterprise applications and security requirements.

According to market research firm IDC, sales of user provisioning software will grow 18.2% annually through 2010. In contrast, the growth of sales in the overall identity and access management market, which includes provisioning, is expected to be just 10.6% annually through 2010.

Another factor likely to speed deployments is the increased use of smart cards, tokens and other programmed devices that rely on software to authenticate users.

Gartner's Runyon notes that the diversity of systems and devices to which employees will need access will continue to grow.

"Over time, we'll start to [automatically] provision other things, not just applications," he says. "We can provision a PDA, a building ID card, the desktop PC, your portable — any number of items that you'll have to return when you leave the company." ■

Hildreth *is a freelance technology writer based in Waltham, Mass. Contact her at Sue.Hildreth@comcast.net.*

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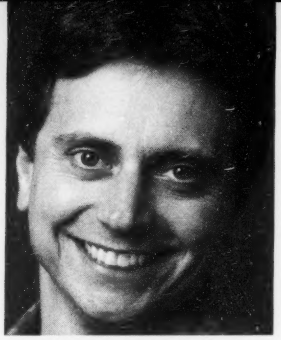
■ OPINION

Robert L. Mitchell



Broadband's Road Less Traveled

YOU CAN'T get there from here. That old New England saw is an apt metaphor for the state of high-speed rural broadband. While many telecommunications carriers are posting record profits this year, millions of U.S. homes and businesses still have no access to broadband — and that's no coincidence.

The return on equity that Wall Street demands from players in today's largely unregulated telecommunications business all but requires carriers to abandon rural America.

As population density drops outside of metropolitan areas, it's impossible for telecommunications companies or cable service providers to justify the tens to hundreds of thousands of dollars per mile it can cost to bring fiber to every rural community, let alone every home.

The result: Today, just 17% of rural U.S. households subscribe to broadband service, according to the Government Accountability Office. And a recent report from the Organisation for Economic Co-operation and Development says the U.S. dropped from fourth in the world in broadband penetration in 2001 to 15th place in 2006.

Communications infrastructure is widely seen as the biggest driver of economic growth, yet 21% of Americans — the nearly 60 million people who live in rural areas — are often underserved.

Kim Rossey is one of them. Soon after moving to Gilsum, N.H. (population 811), Rossey learned that he couldn't get broadband to support his Web programming business, TooCoolWebs. DSL wasn't available, and the local cable service provider wasn't interested in extending the cabling for its broadband service the three-tenths of a mile required to reach Rossey's house — even if he paid the full $7,000 cost.

Rossey ended up signing a two-year, $450-per-month contract for a T1 line that delivers 1.44Mbit/sec. of bandwidth. He pays 10 times more than the cable provider would have charged and receives one quarter of the bandwidth.

■ Rural residents without broadband could be shut out of New Economy jobs.

Limited options for high-speed Internet connectivity are stifling bigger rural companies too. Earlier this year, a $1 billion-plus e-commerce business was left scrambling for answers after Verizon announced that it was selling its rural telecommunications business in New England to the much smaller, less well-capitalized FairPoint Communications.

"These guys were freaking out because the only network they've been able to have up there is an [asynchronous transfer mode] network, and it's going away when Verizon leaves," says an analyst who consulted with the company and asked not to be identified. "They may have to move [to another state]."

The Internet is becoming the road to the workplace. The number of U.S. home-office households is expected to grow from 35.7 million today to 38.3 million in 2011, according to IDC. But rural workers without broadband could be shut out of New Economy jobs.

Alpine Access hires its workforce of 7,500 home-based call center agents over the Internet, and broadband is the price of admission. "Access through our Web site is the only way you can become an employee here," says Rick Owens, vice president of technology. "Some type of broadband service is necessary." Dial-up won't cut it because the applet that connects employees to Alpine Access systems requires a high-speed connection.

Rural areas need broadband. But deregulation has freed carriers from any real obligation to offer it. The market will never provide universal broadband access without regulation or subsidies, but the U.S. lacks both a coherent policy and the political will to address the issue. Even as the telephony infrastructure itself is absorbed into the Internet, some policymakers still fail to view broadband as the new critical infrastructure.

Rossey remains incredulous about his experience. "If you can bring electricity to a house, we should be able to bring Internet access," he says.

You'd think so. At this point, however, it's probably too late to go back to the future. ■

Robert L. Mitchell *is a* Computerworld *national correspondent. Contact him at robert_mitchell@computerworld.com.*

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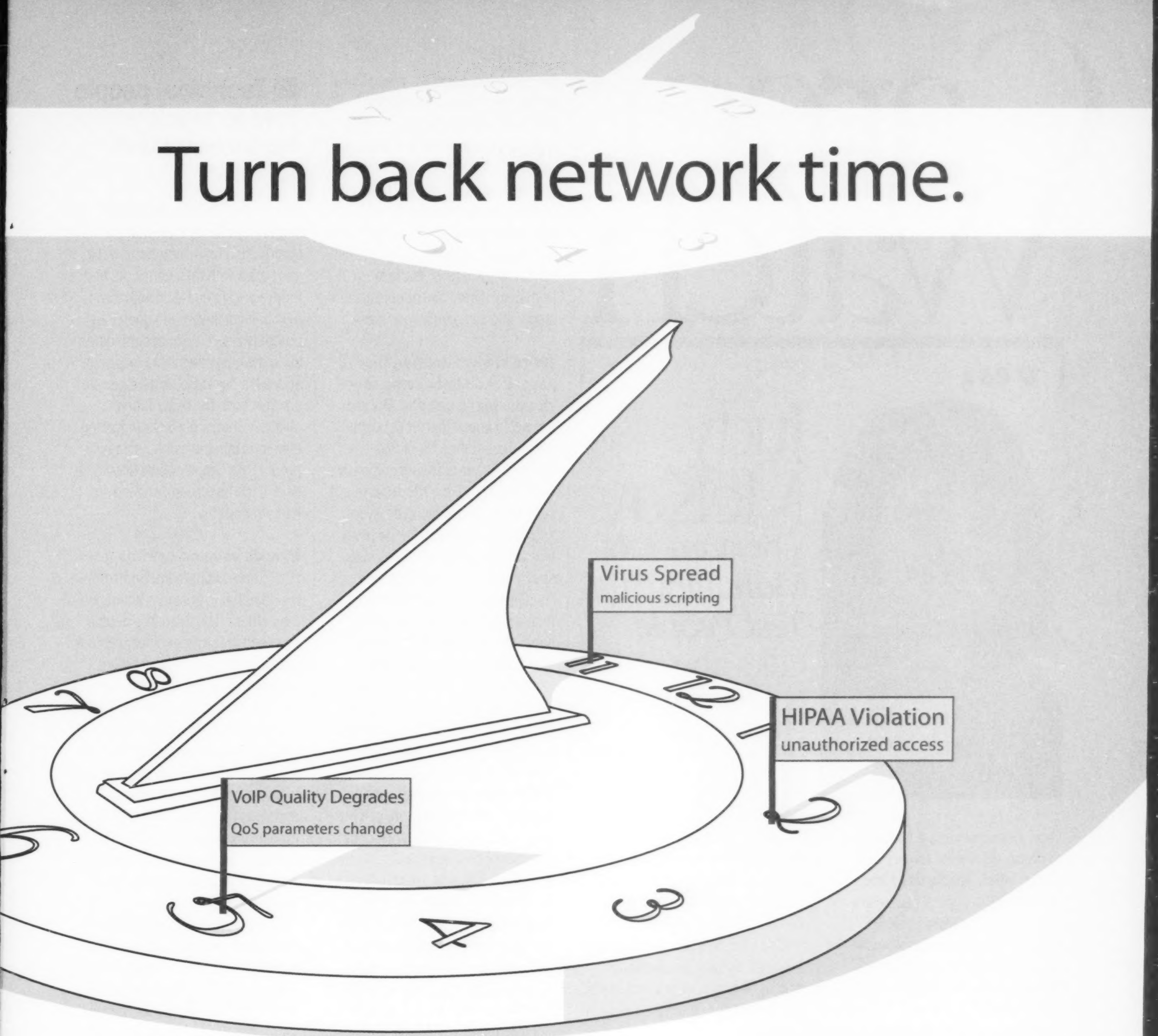
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Career Watch

Q&A

Judy McKay

The author of *Managing the Test People* talks about the special skills needed to lead techies.

How is managing a team of techies different from managing other kinds of office workers? Technical people are motivated by interesting work. They will put up with abominable working conditions if they get to work on something that interests them. I've managed people who had to be sent home at night. But technical people without interesting work are very difficult to manage. Their active minds tend to get them into trouble. A happy team is a group that is busy and too intrigued with their project to get mired down with internal politics. In contrast, I find office workers to be more interested in the overall job than the task at hand. Environment, recognition and security are more important to them.

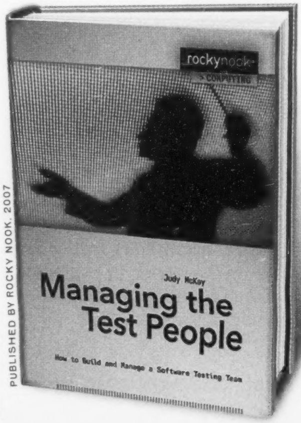
I've also found that technical people need to have adequate playtime. Ideas are exchanged and expanded while they play ping-pong or walk around the parking lot. Allowing people the freedom to wander when they need to returns high rewards that far offset the apparent lack of focus. Technical workers work all the time. Their minds are constantly mulling over problems and possible solutions. What looks like slacking off may be the most productive time they spend. Give them the freedom to work.

Does a manager of techies have to be a techie? Technical people respect technical people. If you can't talk the talk, it is extremely difficult, if not impossible, to gain the respect you need to effectively manage. How can you effectively represent your people in meetings if you don't understand what they do? This doesn't mean that you have to know everything they do. In fact, you won't and you shouldn't. I always strive to hire people who are stronger than me in areas where I'm weak so that together we can build the best team possible. When I have to hire someone with expertise I don't have, I get help with the interview process from other experts.

It's important as a manager to admit what you don't know. Technical people are quick to spot a fraud. You gain trust by being honest, and your people gain confidence in you when you show you are willing to learn from them. Technical people love to teach – be sure you love to learn.

We're always hearing that IT people need to become more like business people. Do you agree? I guess that would depend on how you define "business people." At one software company where I worked, the HR department sent out a memo asking everyone to please wear shoes for the next few days because the copier was spewing staples. Our definition of "business casual" didn't include mandatory shoes. On the other hand, that was one of the finest development/integration/test teams I ever worked with – from the management team through to the night shift computer operators. In appearance, we weren't very businesslike (hey, we had our shoes in the car!); in productivity, we were. Some IT jobs require more of a business focus than a technical focus. The most effective IT professionals are able to adapt to the situation at hand; they can behave in a more formal, businesslike fashion when meeting with customers, yet they can still crawl into the ceiling and find the faulty cable when needed.

As IT becomes less of a backroom activity, there is more visibility to the IT activities and personnel. As such, shoes probably aren't optional in most companies. I think there is still significant latitude available for highly technical people not to have the most polished business façade.



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Technical people love to teach – be sure you love to learn.

Should they? Maybe, but not if it negatively affects their primary contribution to the company. If they can't think with their shoes on, and they're paid to come up with the next brilliant innovation, then they probably aren't the best candidates to do the next sales demo. As managers, it's our job to be sure people are utilized to the best of their abilities. That doesn't mean forcing everyone into the same business-proper role. Some people should be kept in the backroom, and they're happier there!

How do you decide? It's important to know your team. Some people do better in business situations than others. Those are the people you send to the meetings and to the customer sites. Others are most effective when hunkering down over the keyboard and typing like fiends. Let them do it. People do best what they're comfortable doing. Forcing your most talented technical person to give a PowerPoint presentation may result in an hour of mumbling embarrassment – resulting in an unhappy technical powerhouse and an overall negative impression of your team.

As a manager, it's your job to be sure your team is always represented in the best possible way. Create business growth opportunities for those who have the desire and ability to expand out into the business arena, but respect those who aren't interested.

As an industry, we've finally accepted that not everyone wants to be or should be a manager. We also have to recognize that not everyone wants to be business-facing.

– JAMIE ECKLE

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TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Welcome, Er, Back

Big insurance company hires contract programmer to help with the workload in IT – and she's a catastrophe. "The boss thinks things have improved, but the contractor is nothing but trouble, and staff members work extra hard to make up for her lack of technical ability," says a pilot fish on the scene. Budget time rolls around, the contract position is cut, and everyone is relieved – until a few months pass and the contractor shows up again. "When we asked why, the boss replied, 'More work will get done with more workers,' " fish says. "We told the boss the contractor has no technical savvy, and it only took a few hours for her to prove the point. While she was away, we got new PCs. She turned her PC on, but the monitor was black. She asked for help to figure out what was wrong. A staff member looked at the monitor, then reached around and plugged it in. Sure glad we got this one back."

Let's Try That Again

This computer room was never designed to house all the equipment that's stuffed into it, says a pilot fish on the scene. "The guy who routinely checks the equipment in this room was on vacation for a week, so I would wander through to make sure things were OK," fish says. "I submitted a trouble ticket one day because the temperature in one of the rows had climbed to 90 degrees. The first response by the supervisor was, 'It's supposed to be like that.' His final resolution was, 'Put fan in row; temperature is now 87.' "

That Didn't Do It?

Company hires a new sales VP, and he gets his predecessor's phone number, but the phone system is updated to display the new VP's name on the internal Caller ID display. "The help desk received an e-mail asking for Caller ID to display the new VP's name," reports a pilot fish on the line. "The user was informed that it was changed two weeks ago – to which the user replied, 'Tuesday, an outside salesperson calling the new VP said the old VP's name was on the phone display.' Apparently, he didn't understand that the sales guy's contact list on the cell phone was showing the old VP's name."

Picture This

Help desk pilot fish receives an e-mail from an administrative assistant complaining that an employee named Moe isn't in the Outlook global address list. Fish checks: Sure enough, Moe is there. So he sends back an e-mail and attaches a screenshot showing Moe on the list. Admin's reply: "I should have taken a snapshot of him missing."

■ *Picture Sharky behind a grill — that's how I'll be spending my long weekend. Meanwhile, send me your true tale of IT life at sharky@computerworld.com. You'll get a snazzy Shark shirt if I use it.*

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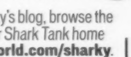

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■ COMPANIES IN THIS ISSUE

Page number refers to page on which story begins. Company names can also be searched at computerworld.com

7x24 Exchange International	18
Advanced Micro Devices Inc.	14
AFCOM	18
Agere Systems Inc.	12
AGL Energy Ltd.	12
Alpine Access Inc.	46
Apple Inc.	27
Areva	35
Association of American Railroads	44
BayCare Health System	18
Bebo Inc.	4
BryanLGH Medical Center	42
BT Radianz	16
California Independent System Operator	34, 35
California Power Exchange	35
California Public Employees' Retirement System	52
Cardinal Health Inc.	18
Certegy Check Services	12
Certeon Inc.	20
Colligo Networks Inc.	20
Configuresoft Inc.	14, 16
Connectria Corp.	10
Coseinc	16
Courion Corp.	44
Dell Inc.	4, 8, 32
Digital China Holdings Ltd.	4
Documentum	20
Election Systems & Software Inc.	8
Entrust Inc.	44
Entryport Corp.	44, 45
FairPoint Communications Inc.	46
Federal Energy Regulatory Commission	35
Federal Trade Commission	52
Fidelity Investments	12
Fidelity National Information Services	12
Gartner Inc.	8, 30, 44, 45
Gateway Inc.	4
Girard Gibbs LLP	12
Google Inc.	20
H. Lee Moffitt Cancer Center & Research Institute	44
IBM	10, 12, 14, 32,
IBM Internet Security Systems	16
IDC	45, 46
Infineon Technologies AG	12
Infosys Technologies Ltd.	12
Intel Corp.	14, 18
IntelliCom Analytics LLC	10
Intuit Inc.	10
ISO	10
JupiterResearch	27
Lennox International Inc.	30
London Mathematical Society	24
Lotus	12
LSI Corp.	12
Microsoft Corp.	10, 14, 20, 45
MIT	29
Monster Worldwide Inc.	10, 52
Nokia Corp.	27
Novell Inc.	8
Organisation for Economic Co-operation and Development	46
Railinc Corp.	44
Raymond James Financial Inc.	42, 44
Rocket Software Inc.	20
SAP AG	12, 20, 29, 42
Schneider National Inc.	30
Sentillion Inc.	42
Siemens AG	10
Siemens Power Transmission & Distribution Systems Inc.	35
Sonora Quest Laboratories LLC.	30
Stanford University	35
Sun Microsystems Inc.	24
Symantec Corp.	10, 52
Tata Consultancy Services Ltd.	12
The New York Times Co.	27
The TJX Companies Inc.	10
TooCoolWebs	46
TXU Corp.	34
U.S. Department of Defense	26
U.S. Department of Veterans Affairs	38
U.S. Government Accountability Office	46
U.S. Securities and Exchange Commission	12
UnitedHealth Group International Inc.	32
University of California	8
University of Michigan	16
Verizon Communications Inc.	46
VMware Inc.	14, 32
Wal-Mart Stores Inc.	52
WebDialogs Inc.	12
Wells Fargo & Co.	8
Whole Foods Market Inc.	52
Wi-Fi Alliance	12
Wild Oats Markets Inc.	52
Wipro Ltd.	12

ADVERTISERS INDEX

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American Power Conversion www.apc.com/promo	43
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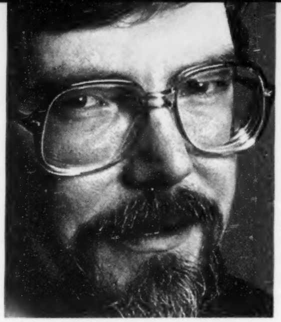
Frank Hayes



The Kindness Of Strangers

IT HAS NOT been a good month for data security news. First, the California Public Employees' Retirement System (Calpers) exposed the Social Security numbers of 445,000 retirees. Then the Federal Trade Commission revealed trade secrets from an antitrust lawsuit. And last week, security experts said Monster.com has leaked the personal data of hundreds of thousands of job seekers.

As it happens, the first two incidents were almost prevented, thanks to the kindness of strangers.

Well, OK, not strangers — business partners.

In the Calpers case, an employee sent a disk containing Social Security numbers along with names and addresses to the company responsible for printing and mailing 445,000 brochures. Fortunately, the printer had software designed to detect SSNs and keep them from being printed. That would have saved the day.

Unfortunately, many of the Calpers SSNs had leading zeroes, which fooled the software. As a result, full or partial SSNs were printed on many of the address labels.

At the FTC, the problem was with a legal document that was part of the commission's lawsuit to block the buyout of organic grocery chain Wild Oats by a competitor, Whole Foods. The document was posted on a federal court's online database, and the FTC was supposed to redact it for public viewing — with confidential information blacked out, including tactics Whole Foods' uses with suppliers to keep from being undercut by Wal-Mart.

But the "blacked out" information was easy to retrieve with a simple cut and paste. Fortunately, court employees spotted the problem and pulled down the filing — but unfortunately not before it was downloaded by the Associated Press and the trade secrets were distributed to newspapers.

(Since then, a federal judge has OK'd the buyout, the FTC has appealed that decision, and Whole Foods says it is considering a lawsuit against the FTC for revealing its trade secrets.)

■ **The more our business partners can help guard against improper disclosures, the better off we'll be.**

Those partners weren't able to save Calpers and the FTC from breaching confidentiality. But they tried, and that's good. Defense in depth shouldn't stop at an organization's borders. The more business partners can help guard against improper disclosures, the better off every organization — and its customers — will be.

Of course, that's no replacement for basic data security inside the organization. That's why the FTC is investigating how an employee failed to properly black things out, while Calpers says it is now looking at ways to eliminate its use of Social Security numbers.

Then there's Monster. This time, the partners — recruiters and HR people who use Monster to look for employees — were the ones whose PCs were penetrated first. Using their stolen Monster log-ins, attackers collected job seekers' résumés to harvest names, addresses, phone numbers and e-mail addresses. All in all, 1.6 million records about several hundred thousand people were stolen, according to Symantec security analyst Amado Hidalgo.

Then that data was used to trick job seekers into downloading malware.

Monster says it does its best to watch out for improper activity. But that's hard to do when your partners are the ones who open the door for attackers.

And anyhow, we can't rely on the kindness of strangers for our security.

But we don't have to. We can talk with our business partners. We can find out how they're backstopping our security efforts and encourage them to do more. We can include them in our postmortems of breaches, disclosures and near misses.

By including those partners in our security efforts, we add just a little more depth to our defense. It won't always save us, as Calpers and the FTC learned. But it could help.

And when it comes to staying out of the data security headlines, we need all the help we can get. ■

Frank Hayes *is Computerworld's senior news columnist. Contact him at frank_hayes@computerworld.com.*

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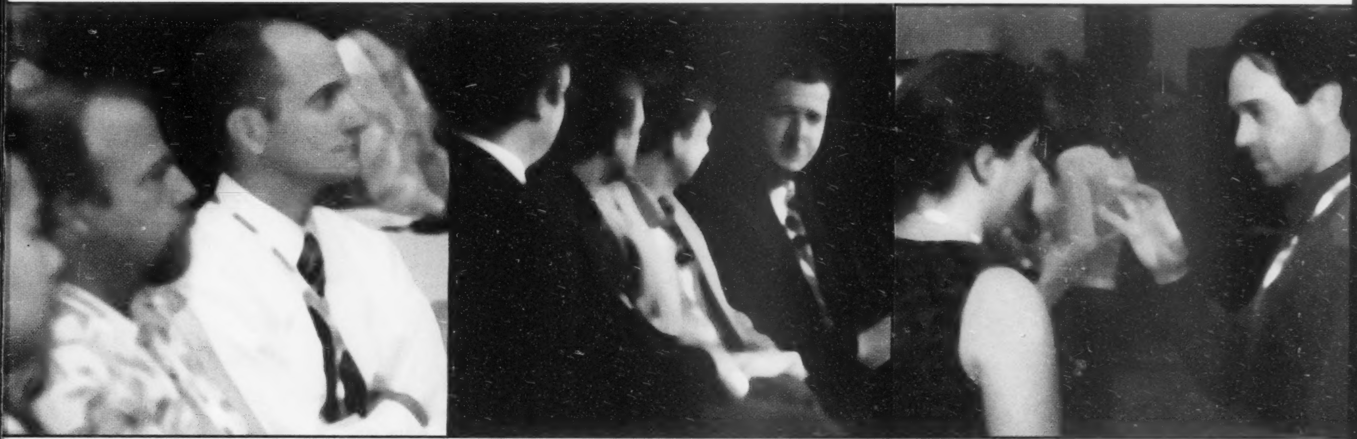
Steps IT Executives Can Take to Better Service
and Communicate with the Business



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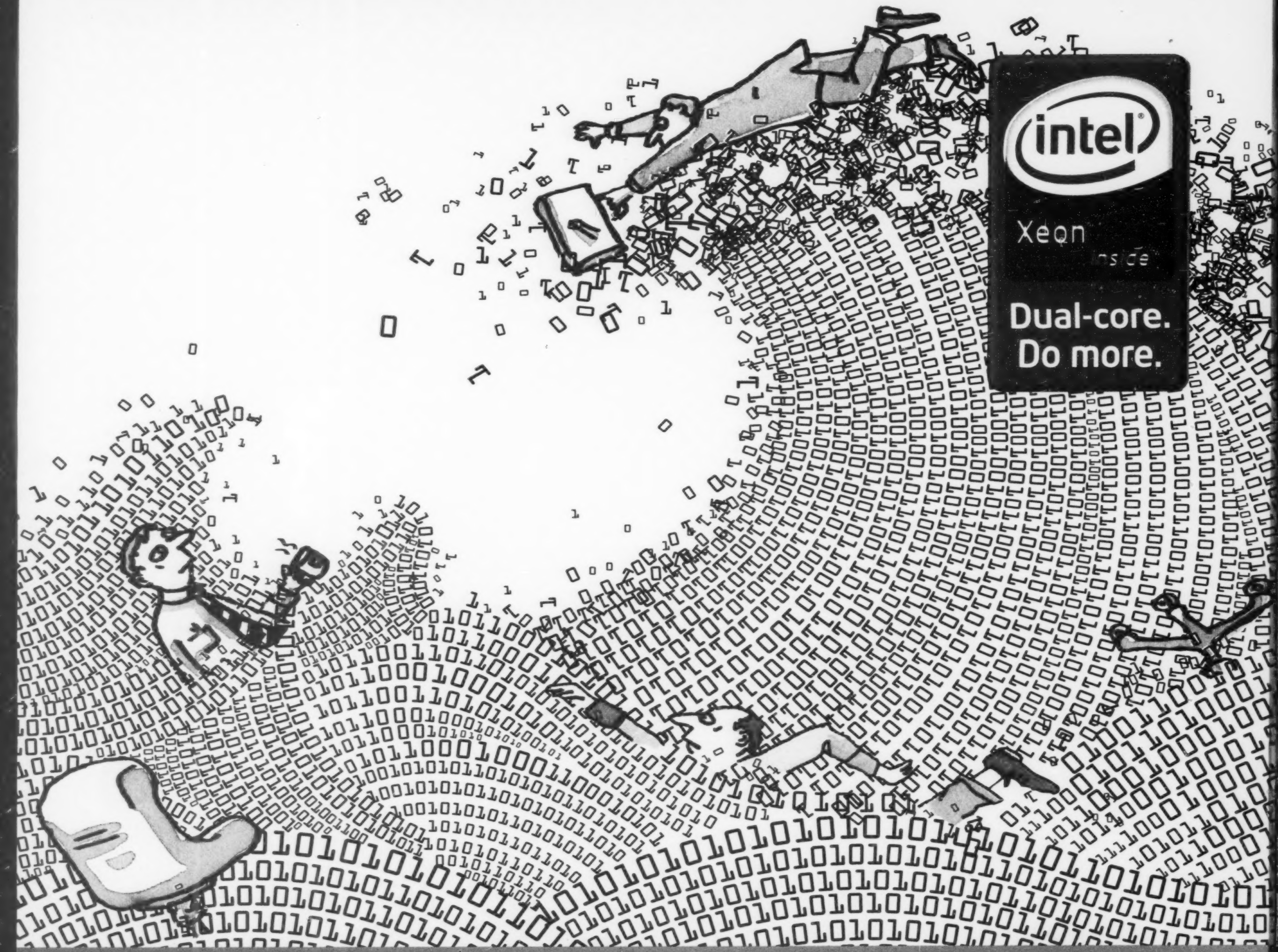

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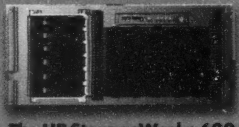

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